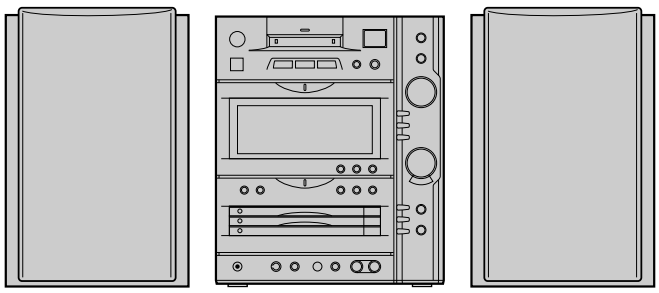
SHARP SERVICE MANUAL

No. S0778MDX8////



MD-X8

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Mini Disc

COMPACT disc DIGITAL AUDIO

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

Page

IMPOTANT SERVICE MANUAL 2
SPECIFICATIONS 2
NAMES OF PARTS 3
OPERATION MANUAL 5
QUICK GUIDE 7
DISASSEMBLY 8
REMOVING AND REINSTALLING THE MAIN PARTS 12
ADJUSTMENT 15
NOTES ON SCHEMATIC DIAGRAM 31
TYPE OF TRANSISTOR AND LED 31
WIRING DIAGRAM 32
BLOCK DIAGRAM 34
SCHEMATIC DIAGRAM / WIRING SIDE OF P.W.BOARD 38
VOLTAGE 68
WAVEFORMS OF CD CIRCUIT 69
WAVEFORMS OF MD CIRCUIT 70
TROUBLESHOOTING (CD SECTION) 72
TROUBLESHOOTING (MD SECTION) 76
FUNCTION TABLE OF IC 81
REPLACEMENT PARTS LIST/EXPLODED VIEW/PACKING OF THE SET

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

IMPORTANT SERVICE NOTES

BEFORE RETURNING THE AUDIO PRODUCT

(Fire & Shock Hazard)

Before returning the audio product to the user, perform the following safety checks.

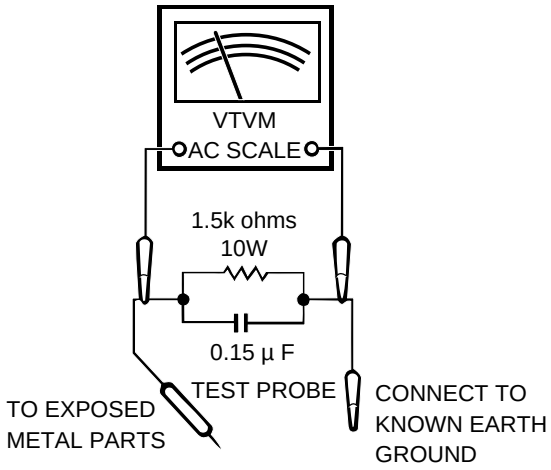
1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the audio product.
2. Inspect all protective devices such as insulating materials, cabinet, terminal board, adjustment and compartment covers or shields, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

* Plug the AC line cord directly into a 120 volt AC outlet.

* Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15µF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as conduit or electrical ground connected to earth ground.

* Use a VTVM or VOM with 1000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor (See diagram).

* Connect the resistor connection to all exposed metal parts having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.



All check must be repeated with the AC line cord plug connection reversed.

Any reading of 0.3 volt RMS (this corresponds to 0.2 milliamp. AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the audio product to the owner.

SPECIFICATIONS

■ Main unit section

(MiniDisc recorder section)

Type:	MiniDisc recorder
Signal readout:	Non-contact, 3-beam semi-conductor laser pick-up
Audio channels:	Stereo 2 channels/monaural (long-play mode) 1 channel
Frequency response:	20 - 20,000 Hz (+1/-3 dB)
Rotational speed:	400 - 900 rpm CLV, Approx.
Quantization:	16-bit linear
Filter:	8-times oversampling digital filter
Error correction:	ACIRC (Advanced Cross Interleave Reed-Solomon Code)
Coding:	ATRAC (Adaptive TRansform Acoustic Coding)
Recording method:	Magnetic modulation overwrite method
D/A converter:	1-bit
Sampling frequency:	44.1 kHz
Wow and flutter:	Unmeasurable (less than 0.001% W. peak)
Signal/noise ratio:	95 dB (1 kHz)
Dynamic range:	90 dB (1 kHz)

(Compact disc player)

Type:	3 disc multi-play compact disc player
Signal readout:	Non-contact, 3-beam semi-conductor laser pickup
Rotational speed:	200 - 500 rpm CLV, Approx.
Error correction:	CIRC (Cross Interleave Reed-Solomon Code)
Quantization:	16-bit linear
D/A converter:	1-bit
Filter:	4-times oversampling digital filter
Frequency response:	20 - 20,000 Hz (+1/-3 dB)
Signal/noise ratio:	95 dB (1 kHz)
Dynamic range:	90 dB (1 kHz)
Wow and flutter:	Unmeasurable (less than 0.001% W. peak)

(Tuner section)

Frequency range:	FM; 87.5 - 108 MHz AM; 530 - 1,720 kHz
Sensitivity:	FM; 2.5 µV (75 ohms, unbalanced) AM; 650 µV/m

(General)

Power source:	AC 120 V, 60 Hz
Power consumption:	135 W
Output power:	40 watts minimum RMS per channel into 6 ohms from 60 Hz to 20 kHz,10 % total harmonic distortion
Input terminals:	AUX 1 (Analog); 500 mV/47 kohms AUX 2 (Analog); 500 mV/47 kohms AUX DIGITAL 1 (Optical) AUX DIGITAL 2 (Coaxial) PHONO; 3 mV/47 kohms
Output terminals:	Headphones; 16- 50 ohms (recommended; 32 ohms) Speakers; 6 ohms AUX (Analog); 2.0 V (1 kohm)
Dimensions:	Width; 9-1/2" (240 mm) Height; 11-7/16"(290 mm) Depth; 12-1/2" (317 mm)
Weight:	18.1lbs. (8.2 kg)

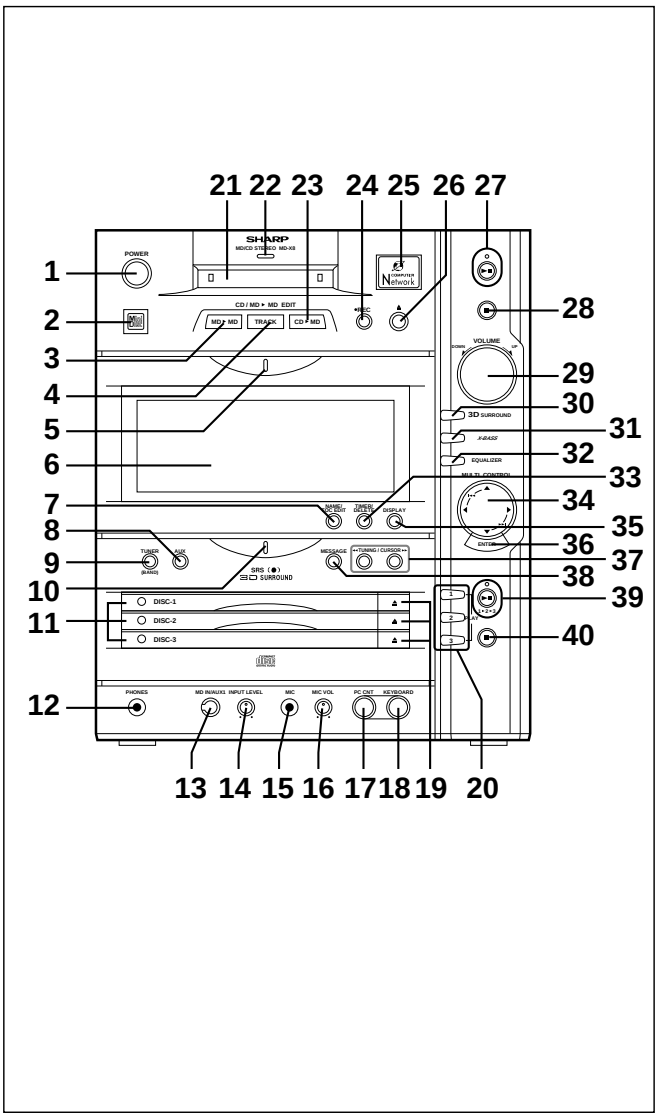
■ Speaker section

Type:	2-way 6" (150 mm) woofer and 1" (25 mm) dome tweeter type
Maximum input power:	100 W
Rated input power:	50 W
Impedance:	6 ohms
Dimensions:	Width; 7-13/16" (197 mm) Height; 11-3/4"(297 mm) Depth; 11-1/16"(281 mm)
Weight:	9.7lbs. (4.4 kg)/each

Specifications for this model are subject to change without prior notice.

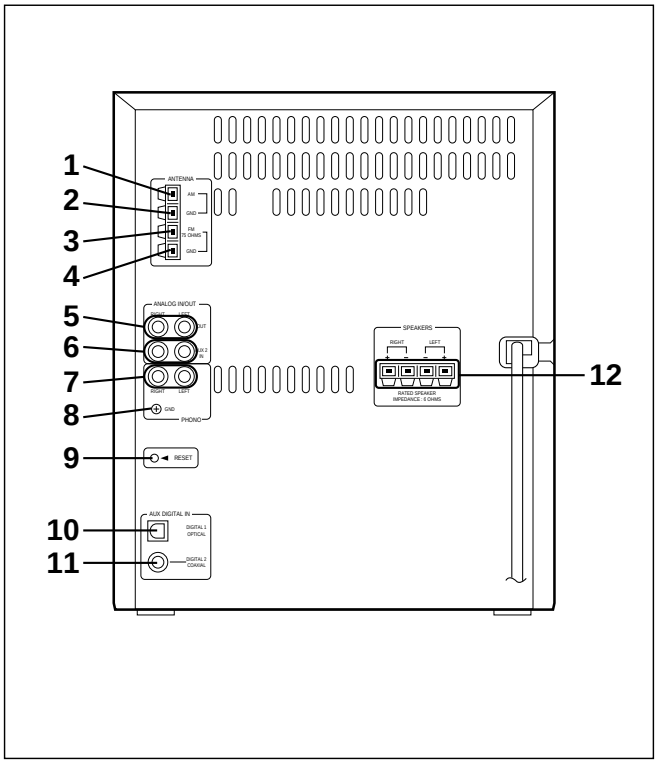
NAMES OF PARTS

● FRONT PANEL



1.Power Button: POWER
2.Remote Control Sensor
3.MD ▶ MD Edit Button: MD ▶ MD
4.CD Track Select Button: TRACK
5.Personal Computer Mode Indicator
6.LCD Display
7.Name / TOC-Edit Button: NAME/TOC EDIT
8.Auxiliary Input (Digital/Analog / Phono) Button: AUX
9.Tuner Call (Band Select) Button: TUNER (BAND)
10.3D Surround Indicator
11.CD Disc Trays
12.Headphones Jack: PHONES
13.MD Edit/Auxiliary 1 (Analog) Input Jack: MD IN/AUX1
14.Auxiliary Input Level (Analog) Control: INPUT LEVEL
15.Microphone Jack: MIC
16.Microphone Input Level Control: MIC VOL
17.Personal Computer Connect Jack: PC CNT
18.Keyboard Connect Jack: KEYBOARD
19.CD Open / Close Buttons: ▲
20.CD Play Buttons: PLAY 1-3
21.MD Compartment
22.MD Indicator
23.CD Edit Button: CD ▶ MD
24.Record Button and Indicator
25.Computer Network Button
26.MD Eject Button: ▲
27.MD Play/Pause Button and Indicator: ▶ ❚❚
28.MD Stop Button : ■
29.Volume Control: VOLUME
30.3D Surround Button: 3D SURROUND
31.Extra Bass Button: X-BASS
32.Equalizer Button: EQUALIZER
33.Timer/Delete Button: TIMER / DELETE
34.Multi Control Button: MULTI CONTROL
35.Display Button: DISPLAY
36.Enter Button: ENTER
37.Tuning Up-Down/Cursor Buttons: ◀◀/▶▶
38.Message Button: MESSAGE
39.CD Play/Pause Button and Indicator: ▶ ❚❚
40.CD Stop Button: ■

● REAR PANEL

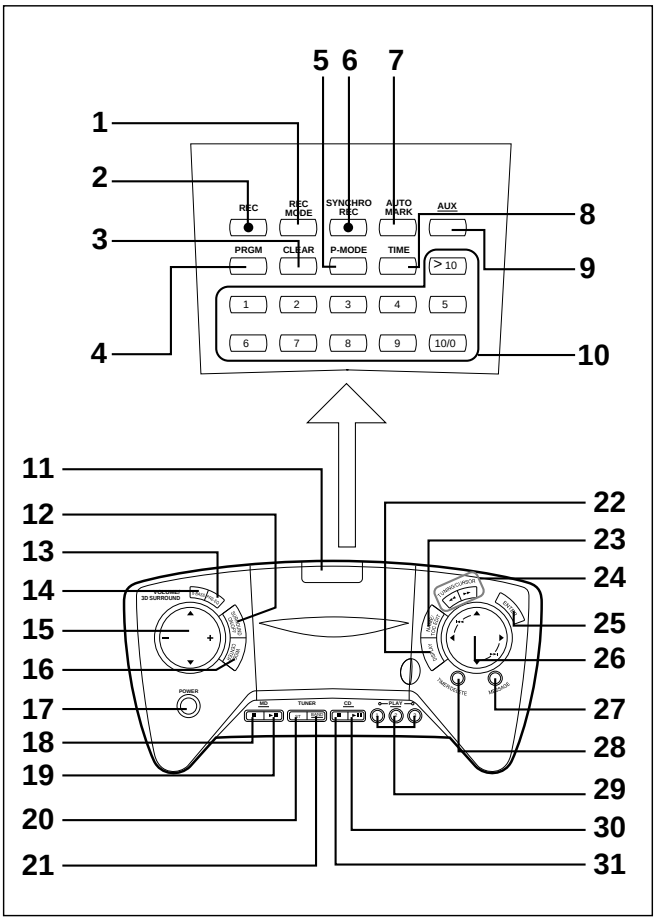


1.AM Antenna Terminal
2AM Antenna Ground Terminal
3.FM Antenna Terminal
4.FM Antenna Ground Terminal
5.Analog Output Jacks
6.AUX2 (Analog) Input Jacks
7.Phono Input Jacks
8.Phono Ground Terminal
9.Reset Button
10.Auxiliary Digital 1 Input Jack (Optical)
11.Auxiliary Digital 2 Input Jack (Coaxial)
12.Speaker Terminals

MD-X8

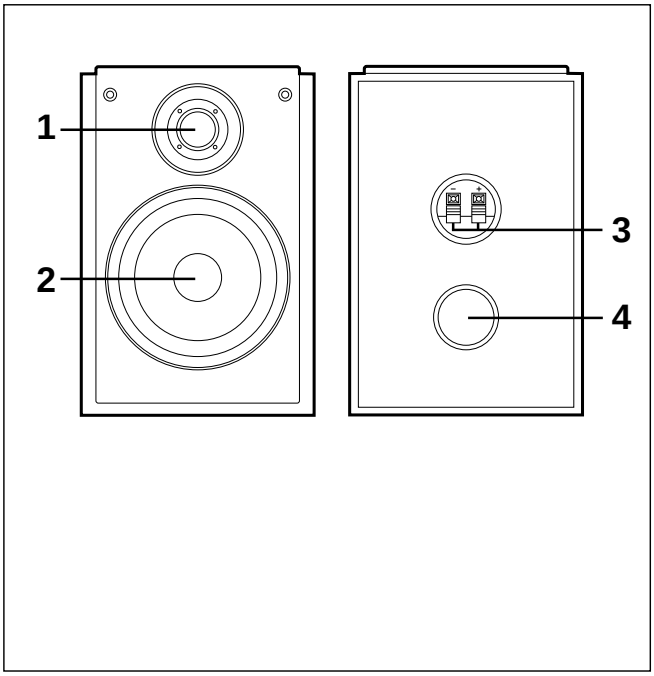
● REMOTE CONTROL

1.Record Mode Button: REC MODE
2.Record Button: ●
3.Clear Button: CLEAR
4.Program Button: PRGM
5.Play Mode Button: P-MODE
6.Synchro Record Button: SYNCHRO REC ●
7.Auto Mark Button: AUTO MARK
8.Time Display Select Button:TIME
9.Auxiliary Input (Digital/Analog / Phono) Button: AUX
10.Tuner Preset/CD/MD Track Number Input Buttons
11.Remote Control Transmitter Window
12.3D Surround On/Off Button: SURROUND ON/OFF
13.Pre-Equalizer Button: PRE-EQ
14.Extra Bass Button: X-BASS
15.Volume / 3D Surround Button: VOLUME / 3D SURROUND
16.Wide/Center Button: WIDE/CENTER
17.Power Button: POWER
18.MD Stop Button: ■
19.MD Play/Pause Button: ►II
20.Tuner Stereo Button: ST
21.Tuner Band Button: BAND
22.Display Button: DISPLAY
23.Name/TOC-Edit Button: NAME/TOC EDIT
24Tuning Up-Down/Cursor Buttons: ◄◄/►►
25.Enter Button: ENTER
26.Multi Control Button
27.Message Button: MESSAGE
28.Timer/Delete Button: TIMER/DELETE
29.CD Play Buttons: Play ① - ③
30.CD Play/Pause Button: ►II
31.CD Stop Button: ■

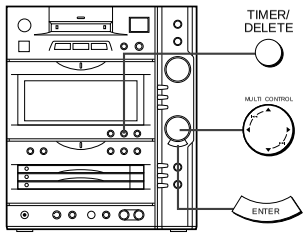


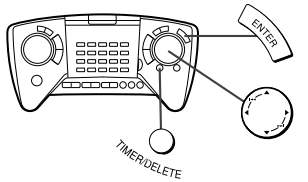
● SPEAKER

1.Dome Tweeter
2.Woofer
3.Speaker Terminals
4.Speaker Duct



SETTING THE CLOCK





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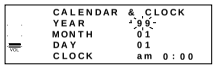

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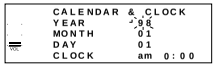

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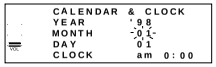

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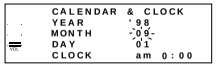

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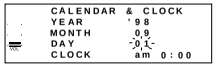

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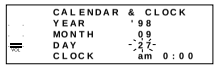

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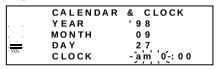

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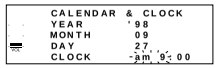

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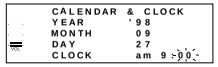

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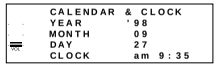

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When you have set the date and time, this unit can be used as a clock. It can be used for timer recording or for timer playback. It is also used to store the MD recording date in memory.

1 Turn the power on.

2 Press the TIMER/DELETE button.

3 Within 10 seconds, press the ▲ or ▼ on the MULTI CONTROL button to select TIME ADJUST.

4 Within 10 seconds, press the ENTER button.

- The unit will enter the date setting mode.

5 Press the 1 or 0 on the MULTI CONTROL button to adjust the year.

- Press the button once to increase or decrease the year by one. Keep pressing it to advance continuously.
- For any year after 2000, use "00" for 2000, "01" for 2001, and so on.

6 Press the ▼ on the MULTI CONTROL button to select the month.

7 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the month.

8 Press the ▼ on the MULTI CONTROL button to select the day.

9 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the day.

10 Press the ▼ on the MULTI CONTROL button to select the hour.

11 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the hour.

- On the display, midnight is shown as "AM 12:00" and noon is shown as "PM 12:00". When setting the time, be careful to set AM or PM according to the current time.

12 Press the ▼ on the MULTI CONTROL button to select the minute.

13 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the minute.

14 Press the ENTER button to start the clock at the top of the minute.

- The clock starts operating.

Notes:

- In the event of a power failure or when the AC power cord is disconnected, the clock setting will be lost. Reset the time.
- While recording an MD, you cannot set the date and clock. Be sure to set the date and clock before recording.
- The range of dates that can be entered is from July 1, 1997 to December 31, 2049.

To change the setting

- After performing steps 1 - 4 above,

① Press the ▲ or ▼ on the MULTI CONTROL button to select the item (YEAR, MONTH, DAY or CLOCK) you want to change.
② Press the ◀ or ▶ on the MULTI CONTROL button to change the setting.
③ Press the ENTER button.

To check the time

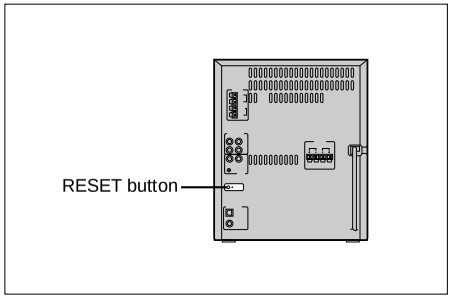
When the power is off, the time appears on the display.
When the power is on and you press the TIMER/DELETE button, the time will appear for about 10 seconds on the display.

- The year, month and day will not be displayed.

MINIDISC SYSTEM LIMITATIONS

Even if the maximum recording time of a MiniDisc is not reached, "DISC FULL" or "TOC FULL" may be displayed.	When the number of tracks used reaches the limit, regardless of the remainder being recording time, further recording will be impossible. (Maximum number of tracks: 255)
Even if the number of tracks and the recording time have reached the limit, "DISC FULL" may be displayed.	When emphasis information (equalizer treatment in the treble section) in a track switches on/off many times, each change is assumed to be the beginning of a new track, which will quickly use up all available track numbers, making further recording impossible, regardless of the remaining time, recording time or the number of tracks on the original.
Even if several short tracks are erased, the remaining recording time may not show an increase.	When the remaining recording time of a disc is displayed, short tracks less than 12 seconds long may not be included in the total.
Two tracks may not be combined in editing.	For MiniDiscs which repeated recording and editing operations were performed, the COMBINE function may not work.
The total of the recorded time and time remaining on a disc may not add up to the maximum possible recording time.	A cluster (about 2 seconds) is normally the minimum unit of recording. So, even if a track is less than 2 seconds long, it will use about 2 seconds of space on the disc. Therefore, the time actually available for recording may be less than the remaining time displayed. If there are scratches on a disc, those sections will be automatically avoided (no recording will be placed in those sections). Therefore, recording time will be reduced.

RESETING THE MICROCOMPUTER



■ If a problem occurs

If subjected to any strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.), or if it is operated incorrectly, or if an MD cannot be removed, this product or the display may become damaged.

1 Unplug the AC power cord from the AC outlet.
2 Press the RESET button on the back of the unit for at least 10 seconds.
3 Plug the AC power cord back into the AC outlet.

- When thze RESET button is pressed, all of the settings in memory will be erased.
- If strange sounds, smells or smoke come out of the unit , or if a foreign object falls into the unit, turn off the power, unplug the AC power cord from the AC outlet immediately. Contact an authorized sharp services.

TROUBLESHOOTING

■ If a problem occurs

If this unit functions abnormally during operation, first check the following items. If the unit continues to function abnormally, or if an abnormality appears other than listed below, turn off the player's power and disconnect the AC power plug, then consult your SHARP dealer or service personnel.

General

SYMPTOM	POSSIBLE CAUSE	REMEDY
• The clock is wrong.	• Did a power failure occur?	• Try setting it again.
• When a button is pressed, the unit does not respond.	––	• Turn the power off and on again, and then retry the operation.
• No sound is heard.	• Are the speaker wires disconnected?	• Connect the wires securely.
	• Are the speaker wires shorted?	• Disconnect the AC power cord, and connect it again.
	• Is the volume level set to "0" ?	• Increase the volume level.
	• Are the headphones connected?	• Disconnect the headphones.
• Radios make unusual noise or the picture on the TV screen is distorted.	• When a radio or TV which uses an indoor antenna is placed near the unit, the picture on the TV screen may be distorted or the radio may not function properly.	• It is recommended that you use an outdoor antenna.

CD playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
• Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	• The disc is loaded upside down.	• Load the disc with the correct side up.
	• The disc is very dirty.	• Clean the disc.
• Playback stops in the middle of a track, or playback is not performed properly.	• The disc which does not satisfy the standards.	• Load the correct disc.
	• Is the unit located near excessive vibrations?	• Place the unit on a firm, level surface free from vibration.
• Playback sounds are skipped.	• Has condensation formed inside the unit?	• Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

MD recording and playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
• A recording cannot be made.	• Is the MiniDisc protected against accidental erasure?	• Slide the accidental erase prevention tab back to its original position.
	• Did you try to record on a playback-only MiniDisc?	• Replace it with a recordable disc.
	• Can you see the "TOC FULL" message in the display?	• Put in another recordable disc with recording space on it.
• Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	• The disc is very dirty.	• Clean the disc.
	• Is the unit located near excessive vibrations?	• Place the unit on a firm, level surface free from vibration.
• Playback sounds are skipped.	• Has condensation formed inside the unit?	• Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

Radio reception

SYMPTOM	POSSIBLE CAUSE	REMEDY
• Radios make unusual noise consecutively.	• The unit is placed near the TV or computer.	• Place the unit apart from the noise.
	• The antenna direction is not placed properly.	• Correct the antenna direction.
• The preset channel cannot be called.	• Did a power failure occur?	• Preset the channel again.

Remote control

SYMPTOM	POSSIBLE CAUSE	REMEDY
• The remote control does not function or does not operate properly.	• The batteries (polarity) are not inserted properly.	• Insert properly.
	• The batteries inside the remote control are dead.	• Replace the batteries.
	• The remote control is operated from an incorrect distance or angle.	• Operate it within a range of 8" (0.2 m) to 20' (6 m) and within an angle of 15° to either side of center.
• The power cannot be turned on from the remote control.	• Is the AC power cord plugged in?	• Connect the AC power cord.

(Continued)

When an error message is displayed, proceed as follows:

Error messages	Meaning	Remedy
BLANK MD	• Nothing is recorded.	• Replace the disc with a recorded disc.
Can't ACCESS	• The unit cannot access the personal computer. • While MD ▶ MDEDIT, incorrect digital signals are input from the portable MD.	• Make sure the sound card is plugged in correctly. • Make sure the personal computer is operating normally. • Make sure the cable is connected correctly and the portable MDs power is on.
Can't COPY	• No copy can be made because of the SCMS copyright system.	• Record using the analog cable.
Can't EDIT	• A track cannot be edited.	• Change the stop position of the track and then try editing it.
Can't REC	• Recording cannot be performed correctly due to vibration.	• Rerecord or replace it.
DEFECT	• Since this disc has scratches on it, the recording operation was skipped.	• Replace the disc with another recordable disc.
CH ERROR	• The CD changer doesn't work well.	• Turn off the power, and disconnect the AC power cord from the AC outlet. Then connect the AC power cord, and turn on the power again.
CONNECT ERR	• While MD ▶ MD EDIT, incorrect digital signals are input from the portable MD player.	• Make sure the cable is connected correctly and the portable MD turns on the power.
Din UNLOCK	• Incorrect digital signals are input.	• Connect correct digital signals. • Use the analog input jack.
DISC ERR*	• The disc is damaged. • The TOC information is not recorded on the disc.	• Reload the disc or replace it.
DISC FULL	• The disc is out of recording space.	• Replace the disc with another recordable disc.
EDIT OVER	• There is no space left for recording CD.	• Replace it with another recordable disc.
FOCUS ERROR	• A disc has not been loaded. • The disc data cannot be read.	• Reload the MiniDisc.
MD ERROR	• Trouble is found.	• Contact a Sharp Authorized Servicing Dealer or Sharp Authorized Service station.
MECHA ERR*	• There is a mechanical problem and the disc is not working properly.	• Turn off the power, and press the 7 button.
NAME FULL	• The number of characters for the disc name or track name exceeds 40.	• Shorten the disc or track name.
NO DISC	• A MiniDisc has not been loaded. • MiniDisc data cannot be read.	• Load a MiniDisc. • Reload the MiniDisc.
NOT AUDIO	• The data recorded on this disc is not audio data.	• Select another track. • Replace the MiniDisc.
PLAYBACK MD	• You tried to record on a playback-only disc. • The disc and track names cannot be moved on playback discs.	• Replace it with a recordable MiniDisc. • Edit only the sound.
PROTECT	• Trouble is found.	• Restart the unit. If the unit doesn't work, contact a Sharp Authorized Servicing Dearer or Sharp Authorized Service station.
PROTECTED	• The MiniDisc is write protected.	• Move the write protection tab back to its original position.
TEMP OVER	• The temperature is too high.	• Turn off the power, and wait for a while.
TOC ERR*	• The disc has a large amount of damage.	• Replace the disc with another disc.
TOC FULL*	• There is no space left for recording character information (track names, disc names, etc.).	• Replace it with another recordable disc.
TOC W ERROR	• Trouble is found.	• Contact a Sharp Authorized Servicing Dealer or Sharp Authorized Service station.
TRAY ERROR	• The disc tray for CD doesn't work well.	• Turn off the power, and disconnect the AC power cord from the AC outlet. Then connect the AC power cord, and turn on the power again.
U TOC ERR*	• The TOC information on this disc does not meet the MD specifications or it cannot be read.	• Replace it with another disc. • Erase all the data, and try recording.
U TOC W ERR	• The TOC information could not be created properly due to a mechanical shock or to scratches on the disc.	• Turn off the power, and try to write the TOC again. (Remove any source of shock or vibration while writing.)
? DISC	• The data contains an error.	• Replace the disc with another disc.
00:00	• Music is not recorded.	• Replace the disc with a recorded disc.

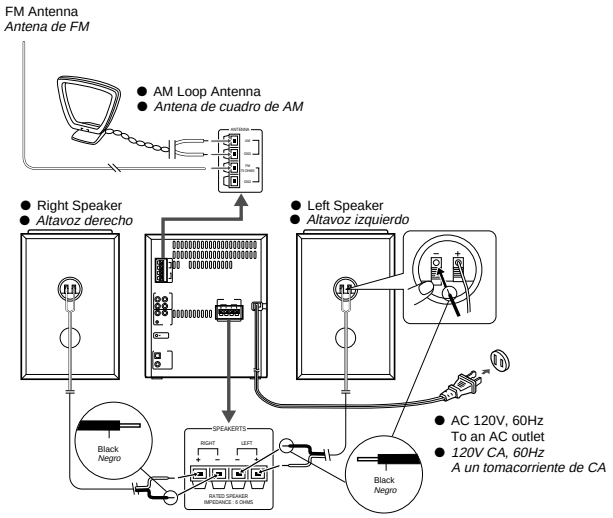
* Number or symbol

SHARP

MD / CD STEREO
MD-X8

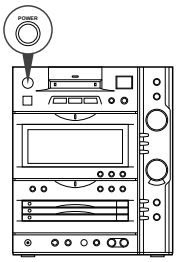
Quick-Guide
Guía rápida

Connection
Conexión

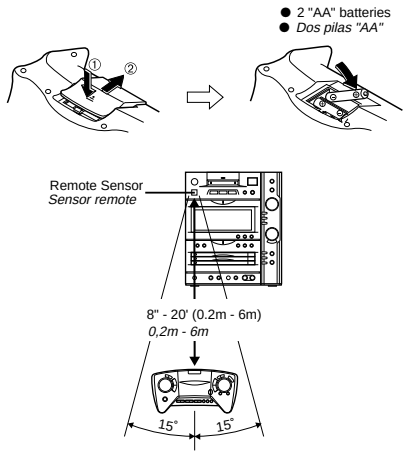


- Connect the black wire to the minus (-) terminal, and the red wire to the plus (+) terminal.
- *Conecte el cable negro al terminal negativo (-), y el cable rojo al terminal positivo (+).*

Turning the power on and off
Conexión y desconexión de la alimentación



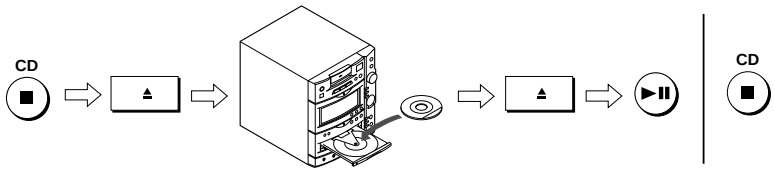
Remote control
Control remoto



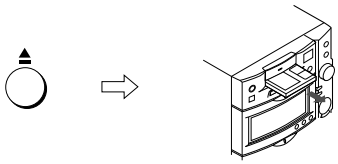
Precaution
Precaución

- The sound level at a given volume setting depends on a combination of speaker efficiency, location and many other factors. It is advisable to avoid exposure to high volume levels, which occurs while turning the unit on with the volume control setting up high, or while continually listening at high volume levels.
- *El nivel de sonido en una posición de volumen fijado depende de una combinación del rendimiento de las altavoces, la posición y muchos otros factores. Es aconsejable evitar un aumento de volumen. Esto se produce, por ejemplo, al conectar el aparato con el volumen puesto en una posición alta. Evite continuar la audición prolongada a altos niveles de sonido.*

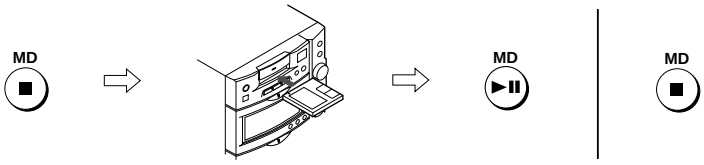
CD playback
Reproducción de discos compactos



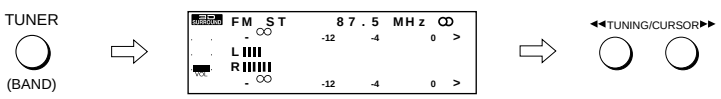
To remove a MiniDisc
Para extraer un minidisco



Playing a MiniDisc
Reproducción de un minidisco

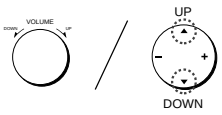


Radio operation
Funcionamiento de la radio

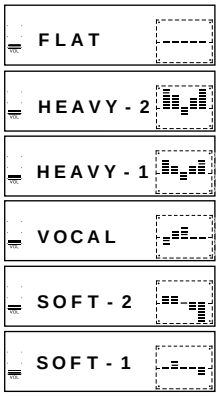


Sound control
Control del sonido

- Volume
- *Volumen*



- Pre-programmed equalizer
- *Ecualizador programado*



- Extra-BASS
- *Bajos extras*

- SRS (●) 3D Surround
- *Sonido perimétrico SRS (●) 3D*

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Impreso en Malaysia
A9707.YO

DISASSEMBLY

Caution on Disassembly

Whe disassembling the machine or assenbling it after repair, observe the following instructions so as to ensure safety and keep its performance.

1. Unload the compact disc, and mini-disc from machine.
2. Be sure to unplug the power cable before starting disasembly of the machine.
3. When disassenbling each section, remove the nylon band or wire arrangement.
   If a screw of improper length is fit to the MD mechanism. (a screw fit the part to the mechanism chassis of MD section), it may cantact the optical pickup, impeding normal operation. Hence, due care must be taken.
4. While repairing, pay utmost attention to static electricity on ICs.

MAIN UNIT

STEP	REMOVAL	PROCEDURE	FIGURE
1	Cabinet	1. Screw ..... (A1) x9	8-1
2	Rear Panel	1. Screw ..... (B1) x13	8-1
3	MD Unit	1. Flat Cable ..... (C1) x1 2. Socket ..... (C2) x1 3. Screw ..... (C3) x2	9-1
4	Fan Motor	1. Socket ..... (D1) x1 2. Screw ..... (D2) x3 3. Bracket ..... (D3) x2	9-1
5	Main PWB	1. Screw ..... (E1) x4 2. Socket ..... (E2) x11	9-2
6	Front Panel	1. Socket ..... (F1) x2 2. Screw ..... (F2) x4	9-2
7	Power PWB	1. Socket ..... (G1) x1 2. Screw ..... (G2) x4	9-2
8	Power Amp. PWB	1. Screw ..... (H1) x4	9-2
9	CD Changer Block	1. Screw ..... (J1) x4 2. Screw ..... (J2) x3	9-3
10	CD Servo PWB (Note 1)	1. Socket ..... (K1) x5 2. Screw ..... (K2) x3	9-4
11	Tray Switch PWB	1. Screw ..... (L1) x1	9-4
12	Jack PWB	1. Socket ..... (M1) x1 2. Screw ..... (M2) x1	9-5
13	Mic PWB	1. Screw ..... (N1) x3 2. Screw ..... (N2) x1	9-5
14	Switch A PWB	1. Knob ..... (P1) x1 2. Nat ..... (P2) x1 3. Screw ..... (P3) x11	9-5
15	Switch B PWB/ LED PWB	1. Screw ..... (Q1) x3 2. Holder ..... (Q2) x1 3. Screw ..... (Q3) x6	9-5
16	Switch C PWB	1. Screw ..... (R1) x7	9-5
17	Display PWB	1. Flexible PWB .... (S1) x1 2. Screw ..... (S2) x1	9-5
18	Lamp PWB	1. Screw ..... (T1) x1	9-5

Note 1: After removing the connector for the optical pickup from the connector wrap the conductive aluminium foil around the front end of connector so as to protect the optical pickup from electrostatic damage.

STEP	REMOVAL	PROCEDURE	FIGURE
19	CD Mechanism	1. Screw ..... (U1) x2 2. Top Bord ..... (U2) x1 3. Disc Holder ..... (U3) x1 4. Disc Tray ..... (U4) x3 5. Screw ..... (U5) x1 6. Mechanism Holder Guide ..... (U6) x1 7. Screw ..... (U7) x2 8. Mechanism Holder Bracket ..... (U8) x1 9. Mechanism Holder (U9) x1 10. Screw ..... (U10) x4	10-1
20	MD Mechanism	1. Screw ..... (V1) x4 2. MD Mechanism holder ..... (V2) x2 3. Screw ..... (V3) x4 4. Flat Cable ..... (V4) x1	10-2
21	MD Main PWB (See page 11 Figure 11-2)	1. Screw ..... (W1) x4 2. Socket ..... (W2) x3 3. Flat Cable ..... (W3) x1 4. Flexible PWB .... (W4) x1	10-3
22	MD Mechanism	1. Screw ..... (X1) x4	11-1

SPEAKER

STEP	REMOVAL	PROCEDURE	FIGURE
1	Speaker	1. Net ..... (A1) x1 2. Net Holder ..... (A2) x4 3. Screw ..... (A3) x4 4. Front Panel ..... (A4) x1 5. Screw ..... (A5) x4 6. Screw ..... (A6) x4	11-3 11-4

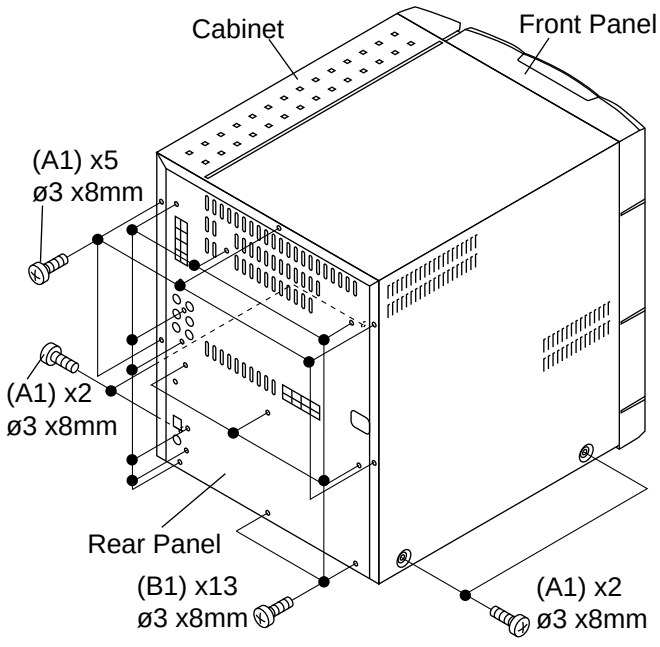


Figure 8-1

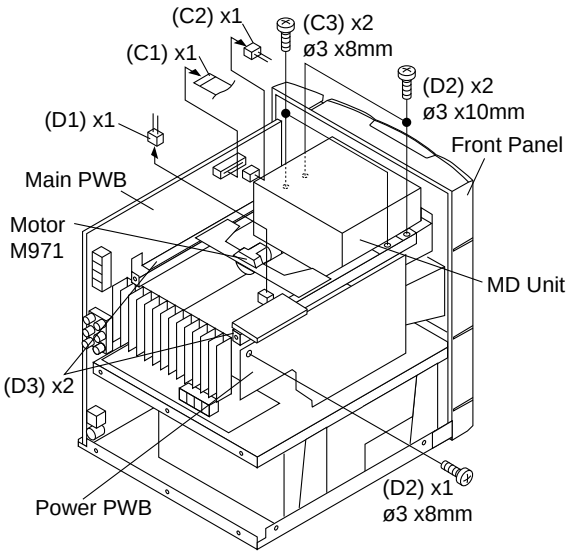


Figure 9-1

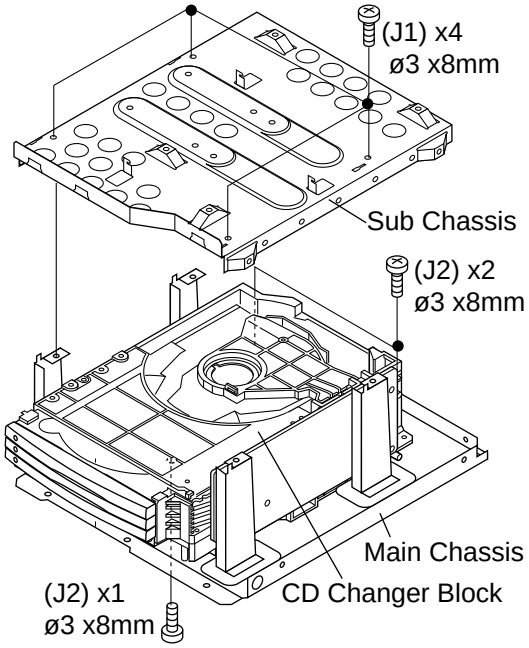


Figure 9-3

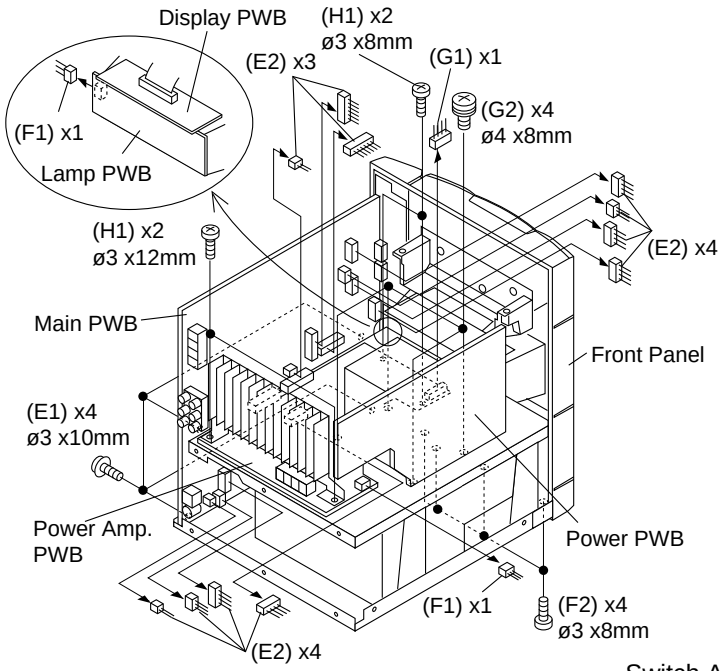


Figure 9-2

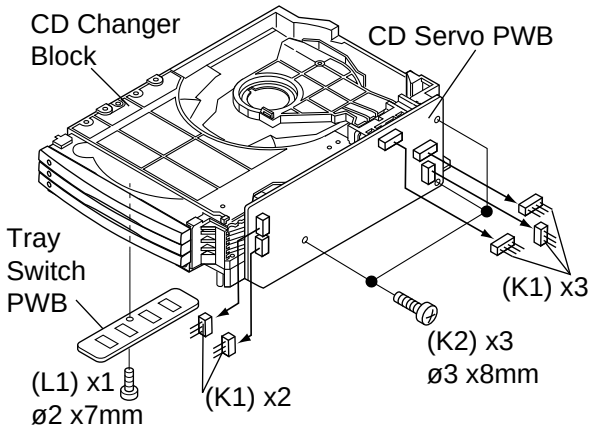


Figure 9-4

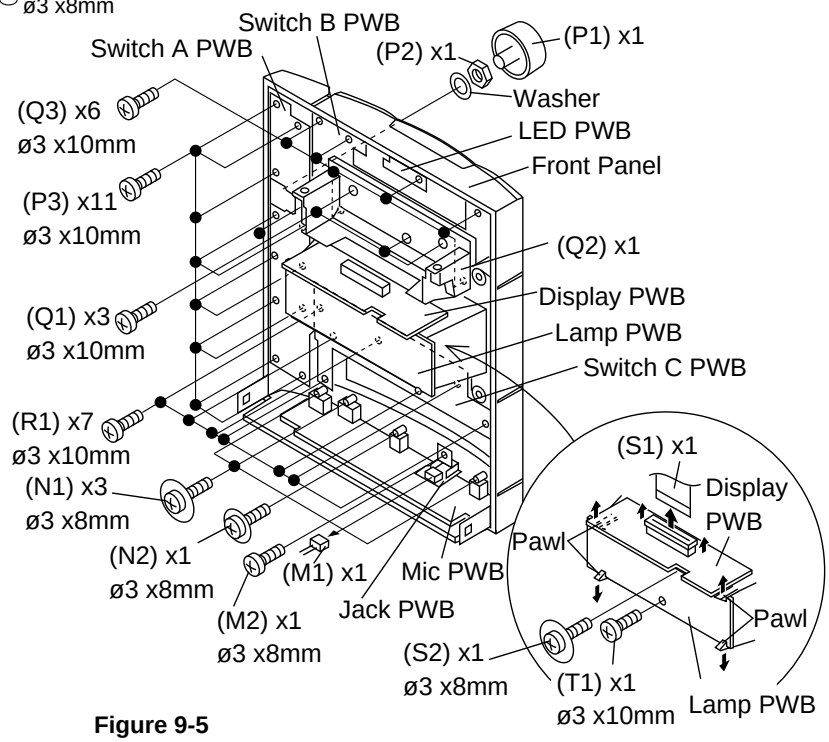
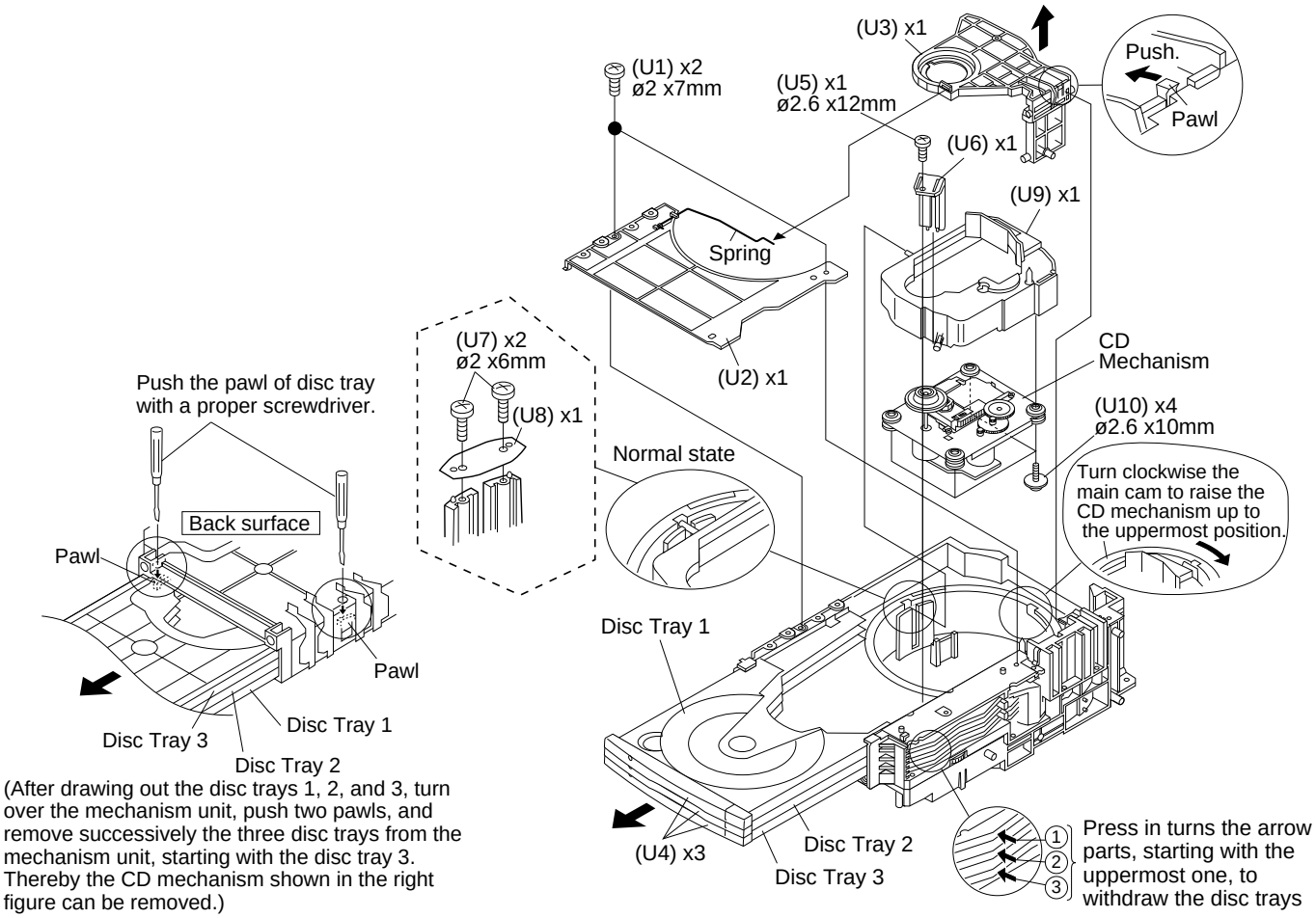


Figure 9-5



(After drawing out the disc trays 1, 2, and 3, turn over the mechanism unit, push two pawls, and remove successively the three disc trays from the mechanism unit, starting with the disc tray 3. Thereby the CD mechanism shown in the right figure can be removed.)

Figure 10-1

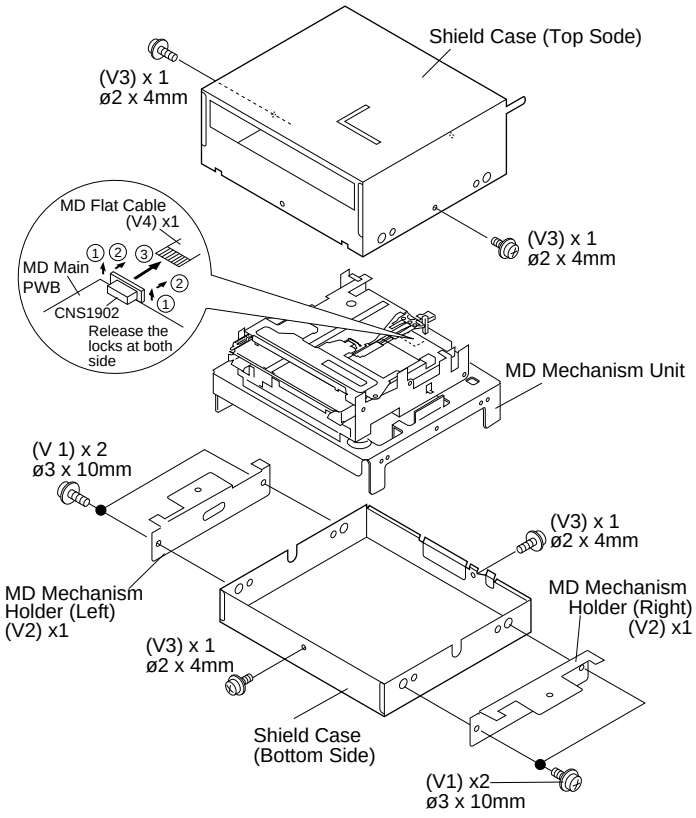
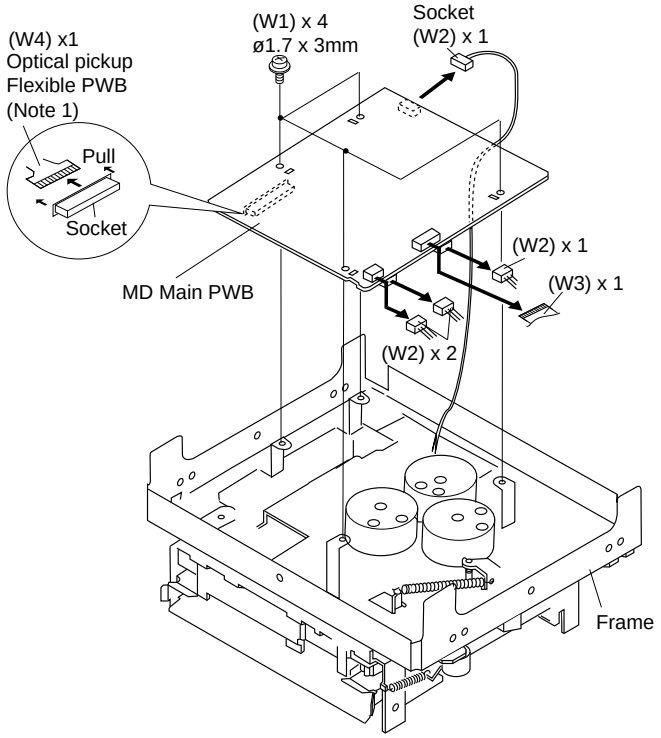


Figure 10-2



(Note 1) After removing the flexible PWB for optical pickup from the connector wrap the front end of flexible PWB in conductive aluminum foil so as to protect the optical pickup from being damaged electrostatically.

Figure 10-3

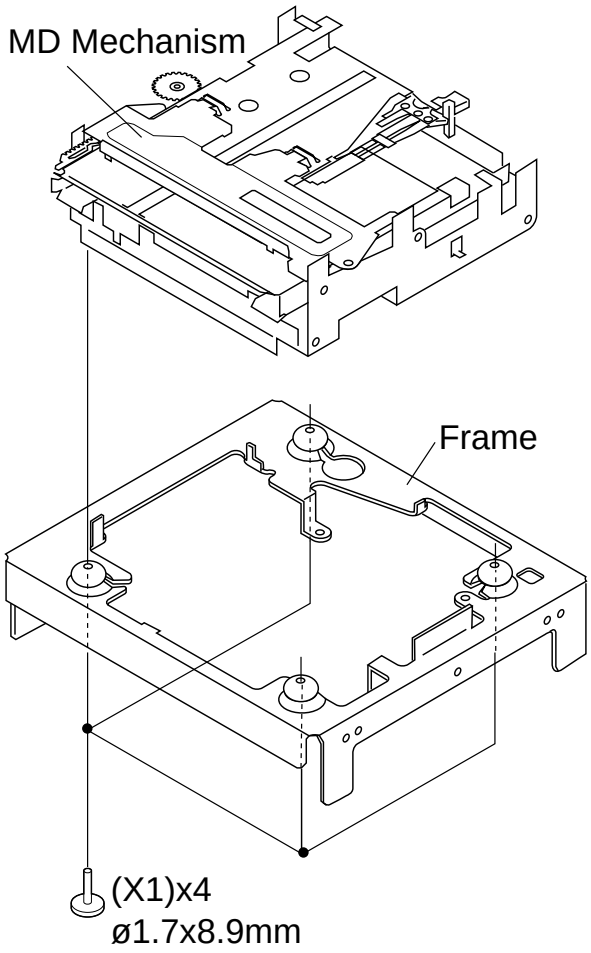
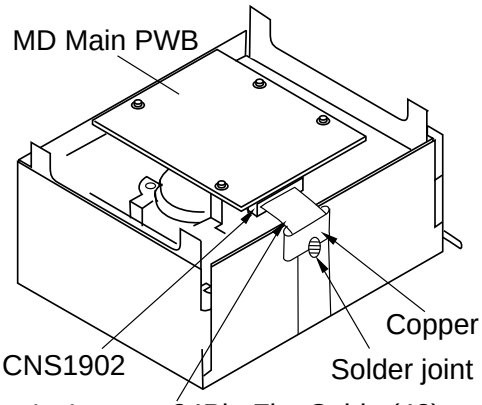


Figure 11-1



(Caution) 24Pin Flat Cable (42)

The copper foil tape is wound around the 24 pin flat cable (42) to ground them to the case. Fit them in the specified direction

Figure 11-2

SPEAKER

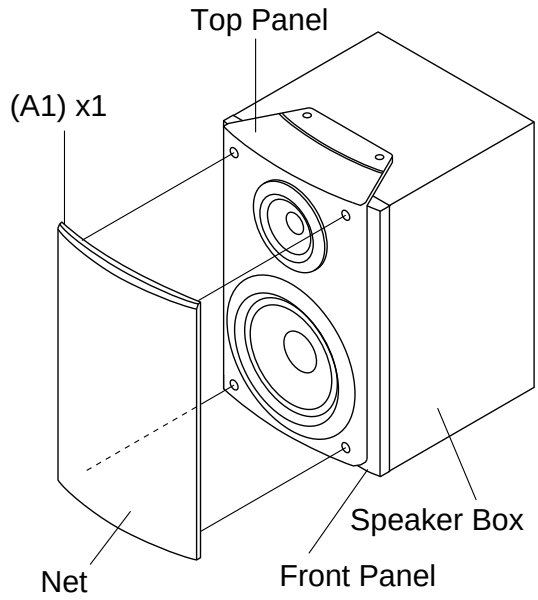


Figure 11-3

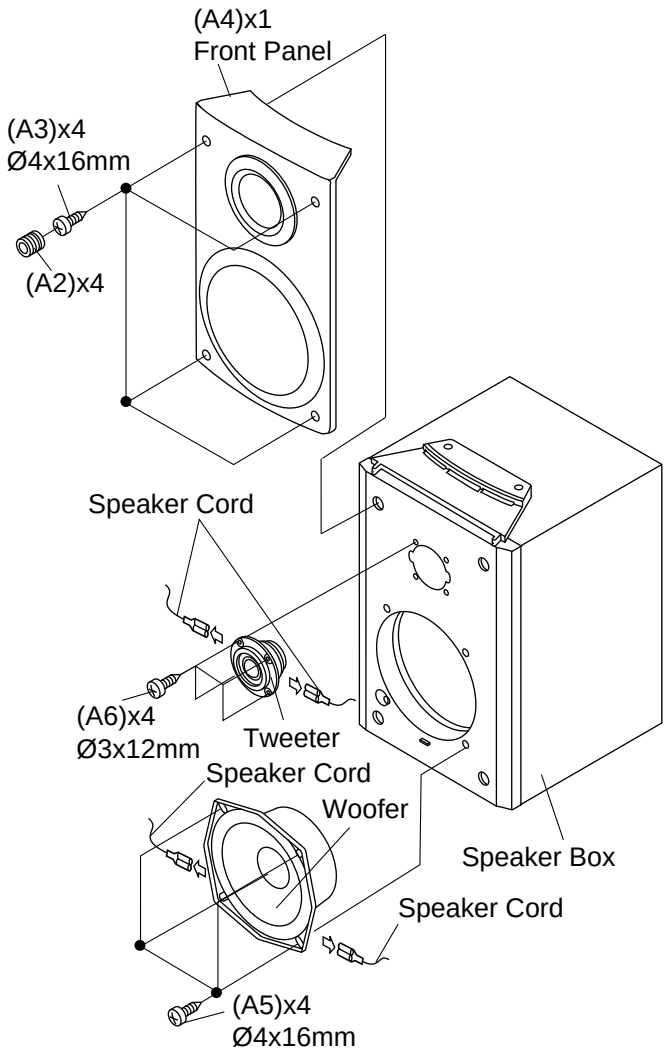


Figure 11-4

REMOVING AND REINSTALLING THE MAIN PARTS

MD MECHANISM SECTION

Perform steps 1 to 3 of the disassembly method to remove the MD mechanism.

How to remove the magnetic head (See Fig. 12-1)

1. Remove the screws (A1) x 1 pc.
2. Remove the solder joint (A2) x 2 connecting the magnetic head to the head relay flexible board.

Caution:

Take utmost care so that the magnetic head is not damaged when it is mounted.

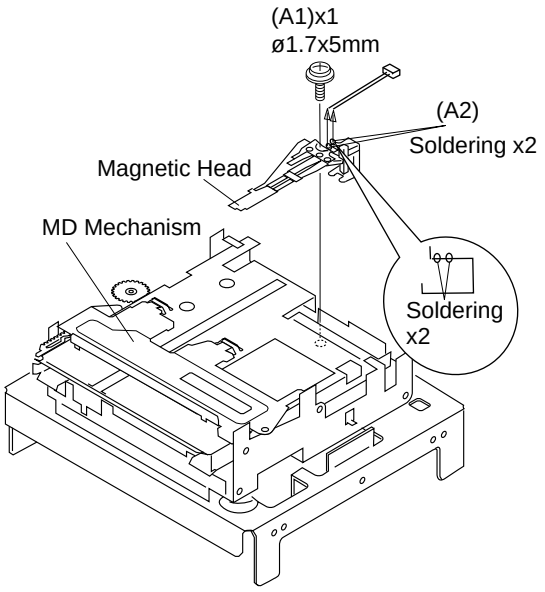


Figure 12-1

How to remove the cartridge holder (See Fig. 12-2)

1. Open the rpller arm lever in the arrow direction, and lower the clamper lever to the rear side.
2. Apply +5V to the red line side of blue connector of loading motor, push the rack gear in the arrow direction to move the cam plate lever until tick is heard.
3. Remove the screw (B1) x1 pc., and the spring (B2) x1 pc., fitted to the holder arm, and shift the cartridge holder to the left side to remove it.

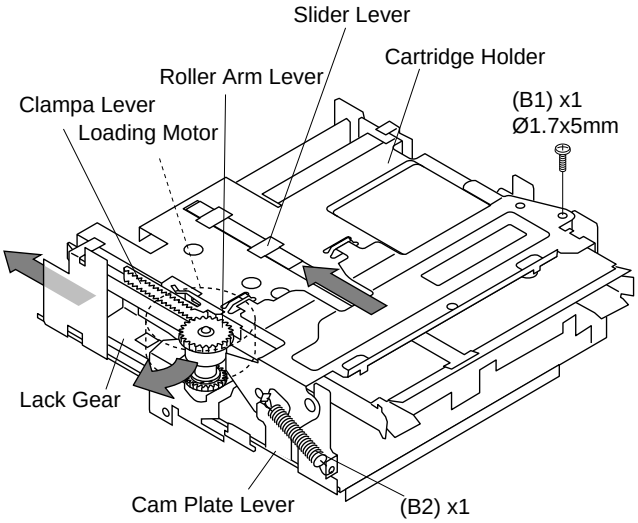


Figure 12-2

How to remove the mechanism switch PWB (See Fig. 12-3)

1. Remove the screws (C1) x 2 pcs., and remove the mechanism switch PWB.

How to remove the sled motor/loading motor (See Fig. 12-4)

1. Remove the screws (D1) x 4 pcs., and remove the sled motor/loading motor.

Caution:

Be careful so that the gear is not damaged.
(The damaged gear emits noise during searching.)

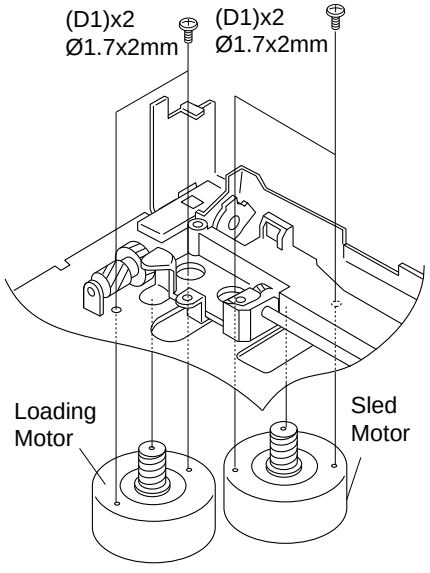


Figure 12-4

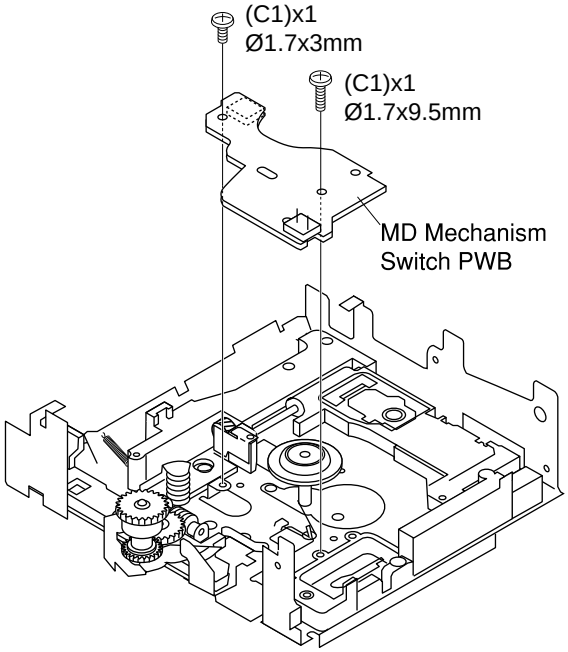


Figure 12-3

How to remove the spindle motor (See Fig. 13-1)

1. Remove the screws (E1) x 3 pcs., and remove the spidle motor.

Caution:

Be careful so that the turntable is not damaged.

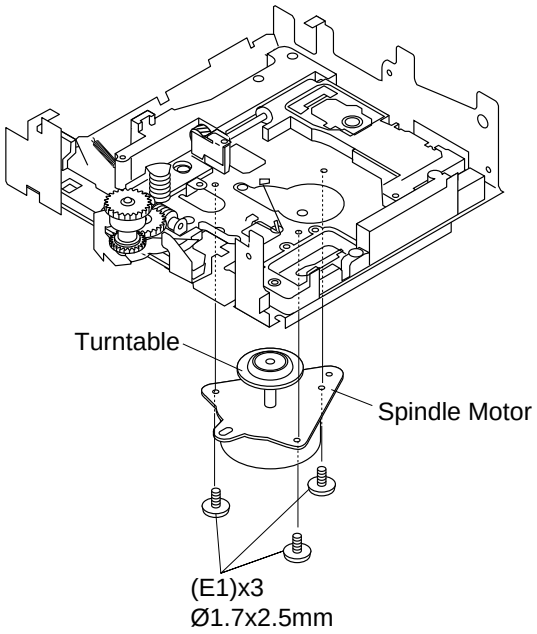


Figure 13-1

How to remove the optical pickup (See Fig. 13-2)

1. Remove the screws (F1) x 3 pcs.

Caution:

Be careful so that the gear is not damaged.
(The damaged gear emits noise during searching.)

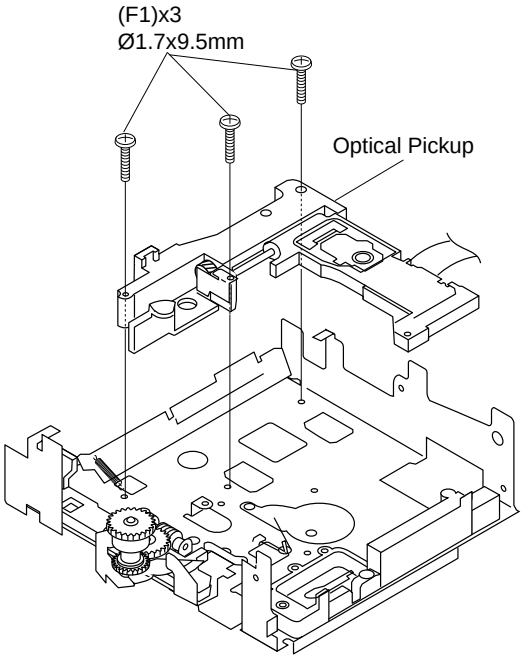


Figure 13-2

How to Replacing the loading pinch roller (See Fig. 13-3.)

1. Remove the fixing washer (G1) x 1 pc. with small precise screwdriver, and remove the loading pinch roller upward.

Caution:

The deformed or damaged fixing washer must be replaced with new one.

How to Cleaning the loading pinch roller (See Fig. 13-3.)

1. Impregnate swab with several drops of alcohol, and clean the loading pinch roller with it.
2. Before using make sure that the cleaned parts have dried sufficiently.

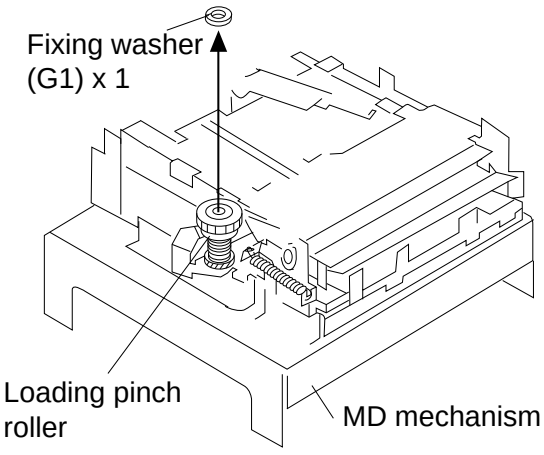


Figure 13-3

CD MECHANISM SECTION

For the procedure to remove the CD mechanism from the main unit, refer to Disassembling Procedure, Steps 1~10, and 19. (p.8).

How to Remove the optical pickup (See Fig. 14-1.)

1. Remove the screws (A1)x 2 pcs., to remove shaft (A2)x 1 pc.
2. Remove stop washer (A3)x 1 pc., to remove gear (A4)x 1 pc.
3. Remove the optical pickup.

Note:
After disconnecting the optical pickup connector wrap the front end of connector in conductive aluminum foil so as to prevent damage to the optical pickup by static electricity.

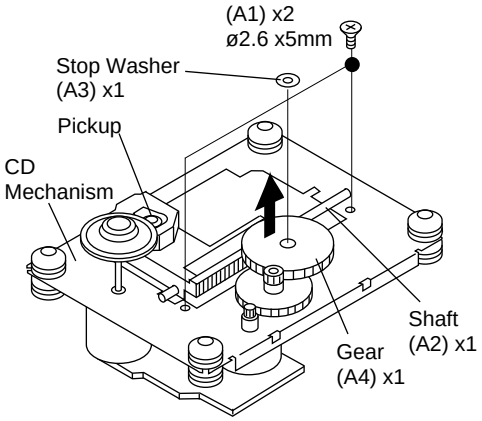


Figure 14-1

How to Remove the tray motor/main cam motor (See Fig. 14-2.)

1. Remove the CD changer section by the method described in page 8, and disassemble as shown in the figure.
2. Remove the belts (B1)x 2 pcs., from the motor side.
3. Remove the screws (B2)x 4 pc.
4. Remove the tray motor and main cam motor.

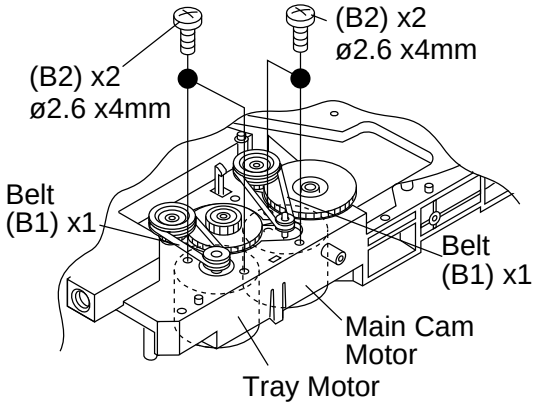
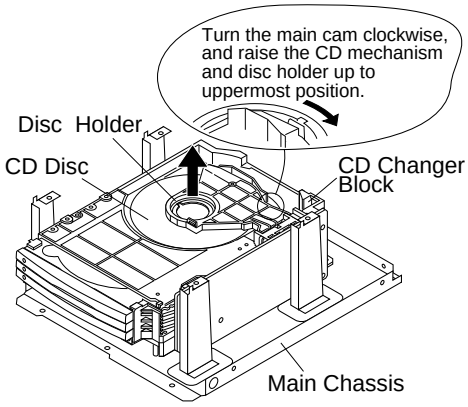


Figure 14-2

How to remove the CD disc (When CD is in playback state) (See Fig. 14-3.)

1. Remove the cabinet and front panel.
2. Disassemble as shown in the figure so that the CD disc of CD changer becomes visible.
3. Remove the CD disc as shown in the figure.

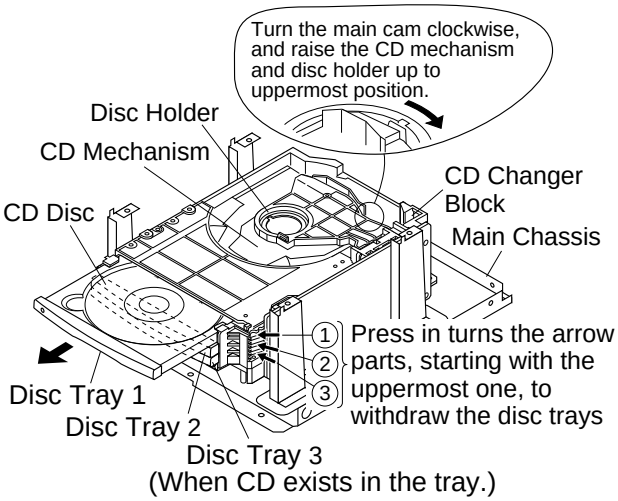

Turn the main cam clockwise, and raise the CD mechanism and disc holder up to uppermost position.
Disc Holder
CD Disc
CD Changer
Block
Main Chassis

(When CD is in playback state.)

Figure 14-3

How to remove the CD disc (When CD exists in the tray) (See Fig. 14-4.)

1. Remove the cabinet and front panel.
2. Disassemble as shown in the figure so that the CD disc of CD changer can be taken out.
3. Remove the CD disc from the tray as shown in the figure.


Turn the main cam clockwise, and raise the CD mechanism and disc holder up to uppermost position.
Disc Holder
CD Mechanism
CD Changer
Block
CD Disc
Main Chassis
① Press in turns the arrow
② parts, starting with the
③ uppermost one, to
withdraw the disc trays
Disc Tray 1
Disc Tray 2
Disc Tray 3

(When CD exists in the tray.)

Figure 14-4

ADJUSTMENT

TUNER SECTION

fL: Low-range frequency
fH: High-renge frequency

• AM adjustment and confirmation

AM signal oscillator Frequency 400 Hz, 30%, AM modulation

Adjusting item	Adjusting object	Adjusting method
IF	Adjust the indication of T351 set to 1,720 kHz.	Set IF wafeform 450 kHz to maximum.
Frequency cover (VT line voltage of pin 20 of IC302)	fL: T302 (530 kHz) Adjust the indication of set to 530 kHz.	fL: 1.1 ± 0.1 V fH: 5.1 ± 1.3 V of (Only confirmation)
Tracking	fL: T302 (990 kHz)	Set the output of speaker terminal to maximum.

• FM mute level adjustment

FM signal oscillator Frequency 400 Hz, 22.5 kHz

Frequency	Adjusting method	Adjusting object	Adjusting object
98.0 MHz	28 dB	VR351	Input: SO301 Output: Speaker Terminal

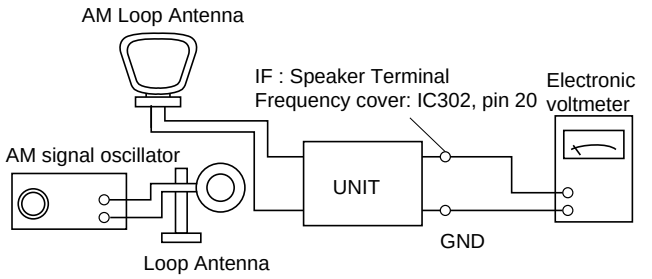


Figure 15-1 AM IF

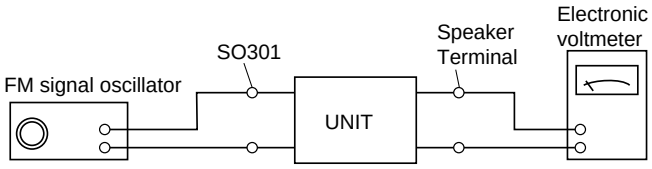


Figure 15-2 FM Mute Level

• TEST mode setting method

Holding down the ENTER button and TUNER (BAND) button, turn on the power. Frequency is set in the memory (initial setting) as shown in Table 15. Call the setting with the PRESET button to use it for tuner circuit adjustment or confirmation.

Preset No.	Frequency	Preset No.	Frequency
P01	87.5 MHz	P06	530 kHz
P02	108.0 MHz	P07	1,720 kHz
P03	90.0 MHz	P08	600 kHz
P04	106.0 MHz	P09	1,400 kHz
P05	98.0 MHz	P10	990 kHz

Table 15 Initial setting of memory

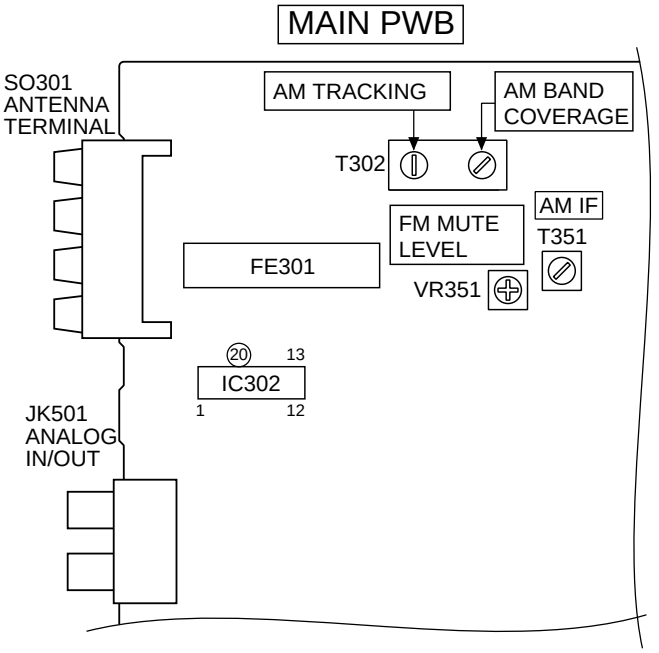


Figure 15-3 ADJUSTMENT POINTS

MD-X8

CD TEST MODE

CD test mode setting

Any one of test mode can be set by pressing several buttons as follows.
Holding down CD PLAY/PAUSE and TACK UP/CUE, turn on POWER. TEST: CD operation test

Test Mode
Function - CD TEST mode
Setting of Test mode
Indication of CD TEST mode
OPEN/CLOSE operation is manual operation.
The pickup can be moved with the (►►) or (◄◄) button.

Initialization is not performed.

<MEMORY> ——— <MEMORY> ——————— <MEMORY> ——————— <STOP>

LASER ON	Tracking on the spot. SERVO OFF PLAY	Tracking on the spot. SERVO ON PLAY	STOP

<PLAY> button input - TOC. Initialization performed, and the ordinary PLAY is performed.
Press the <STOP> button. ——— Stop
If the following button is pressed during PLAY, it is possible to specify directly any Track No.
<Disc Number 1> button: Track 4
<Disc Number 2> button: Track 9
<Disc Number 3> button: Track 15

Note:
Only in STOP state it is possible to slide the pickup with the (►►) or (◄◄) button.
VOL: Last memory
BAL: CENTER
R.GEQ: FLAT
X-BASS.OFF
Cancel method: POWER OFF

CD SECTION

Since this CD system incorporates the following automatic adjusting function, when the pickup is replaced, it is not necessary to the readjust it .
Since this CD unit does not need adjustment, the combination of PWB and laser pickup unit is not restricted.

Automatic adjustment items

1. Focus Offset (Fig. 16-1)
2. Tracking Offset (Fig. 16-2)
3. E/F Balance (Tracking Error Balance) (Fig. 16-3)
4. R/F level AGC function (HF level: Constant)
5. RF level automatic follow-up of the tracking gain

This automatic adjustment is performed each time a disc is changed. Therefore, each disc is played back using the optimal settings.

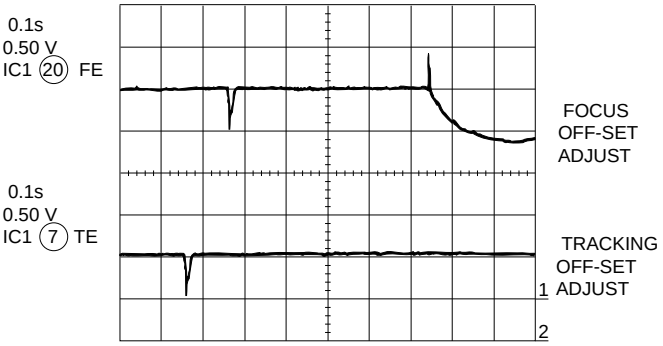


Figure 16-1

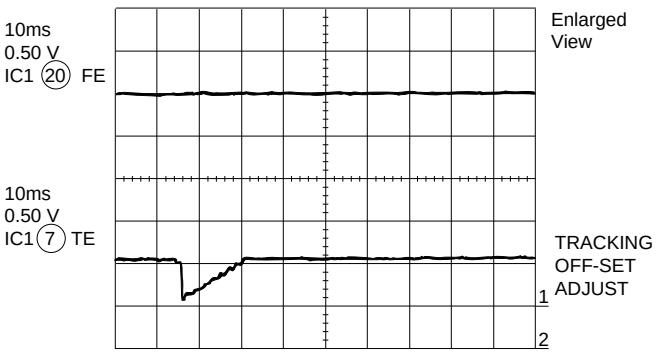


Figure 16-2

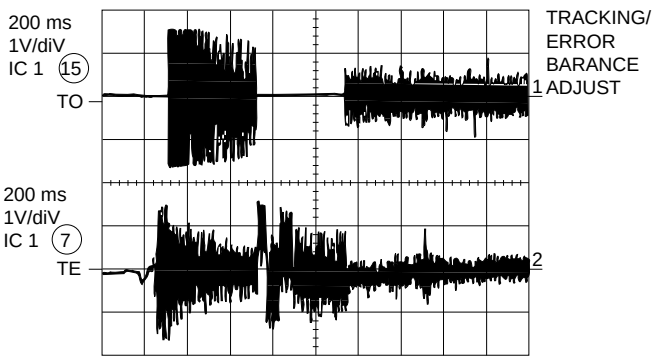


Figure 16-3

MD SECTION

• Note

Remove the MD unit for repeir, ansd after installing it in the set, be dure to reset it and ascertain that reset has been done.

Resetting procedure (1) Unplug the AC cord from the socket, and hold down the RESET buttonm provided at the rear side for more than 10 seconds.

(2) Once set the TEST MODE (holding down the TEST MODE (X-BASS botton) and I◄◄ botton together, press the POWER button), and then turn off power.

1. Preparation for adjustment

Test disc

	Type	Test disc	Part No.	Price Code
1	High reflection disc	TGYS1 (SONY)	RRCDT0101AFZZ	CB
2	Low reflection disc	Recording minidisc	UDSKM0001AFZZ	AZ
3	————————	Head Adjusting transparent	RRCDT0103AFZZ	BK

Extension Cable (See Fig. 17)

	Type	Part No.	Price Code
1	Extension PWB for servicing	RUNTK0457AFZZ	
2	Extension Connector (2 Pin)	QCNWK0059AFZZ	AF
3	Extension Connector (6 Pin)	QCNWK0107AFZZ	
4	Extension Cable (5 Pin)	QCNWK0109AFZZ	
3	Extension Cable (28 Pin)	QCNWK0108AFZZ	

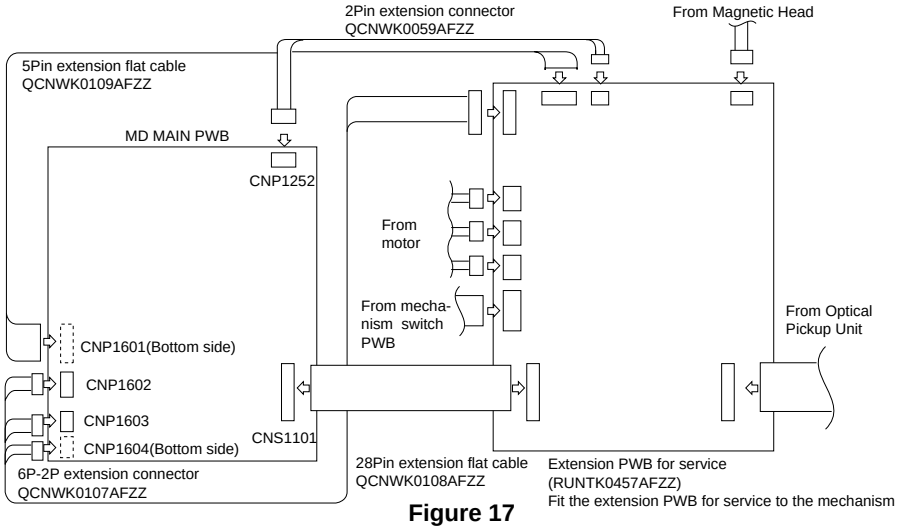


Figure 17

2. Test mode

Test mode setting method

1. Holding down the ►►I+ button and MD► ▮▮ (PLAY/PAUSE) button, press the POWER button. (State Ⓐ is changed to state Ⓑ.)
2. Insert the playback disc 1 (high reflection disc) or recording disc 2 (low reflection disc). (State Ⓒ is set.) Thus, the test mode state is set.

Ⓐ tsm ○○○○e○○ : TEST MODE
TEST STOP state

○○ represents version of MD microcomputer.
(When the MD■(STOP) button is ressed in the Ⓒ state, the indication Ⓐ is restored. To restore Ⓒ again, press the CD► ▮▮ (PLAY/ PAUSE) button.)

↓

Ⓑ EJECT
TEST

↓

Ⓒ AUT YOBI
TEST

Entering the specific mode

Whenever the CD► ▮▮ (PLAY/PAUSE) button is pressed, the mode is changed.

→ AUTO pre-adjustment → AUTO adjustment → RESULT Pre-adjustment →

← EEPROM setting ← MANUAL adjustment ← RESULT MANUAL pre-adjustment ←

• Canceling the test mode

When the POWER button is pressed, the test mode is canceled, and the POWER OFF state is set.

• Test Mode

1. AUTO pre-adjustment mode	• Automatic pre-adjustment is performed. (After adjustment the grating adjustment mode is set.) • The adjustment value is output with the aid of system controller interface.
2. AUTO adjustment mode	• Automatic adjustment is performed. • The adjustment value is output with the aid of system controller interface. • Continuous playback is performed. (Error rate indication, jump test)
3. RESULT sub-mode	• The measurement value, set value and calculated value are indicated. • The set value is changed manually (in servo OFF state).
4. RESULT mode (final adjustment)	• The set value (after calculation) is indicated. • The set value is changed manually (in servo OFF state).
5. MANUAL pre-adjustment mode	• RF side manual adjustment is performed. • Focus and tracking signal ATT manual adjustment is performed. • Focus and tracking signal offset setting is performed.
6. MANUAL adjustment mode	• Focus and tracking signal ATT manual adjustment is performed.
7. EEPROM setting mode	• Various coefficients of digital servo are changed manually. • Each servo is set to ON individually. • Temperature detection terminal voltage is measured, and the reference value is determined.
8. TEST-PLAY mode	• Continuous playback from the specified address is performed. • C1 error rate measurement, ADIP error rate measurement.
9. TEST-REC mode	• Continuous recording from the specified address is performed. • Change of record laser output (servo gain is also changed according to laser output)
10. INNER mode	• The position where the INNER switch is turned on is measured.
11. EJECT mode	• TEMP setting (of EEPROM setting) • CONTROL setting (of EEPROM setting) • Setting of laser power (record/playback power)

1. AUTO pre-adjustment mode (Low reflection disc only)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m◯◯◯ e ◯◯]
Step 2	Press once the CD PLAY button.	AUTO pre-adjustment menu	[_ A U T _ Y O B I _]
Step 3	Press once the MD PLAY button. End of adjustment	The slide moves to the innermost periphery, and automatic pre-adjustment is started. • During automatic adjustment ✳✳✳ changes as follows. HAo→RFg→SAg→SBg→PTG→PCH→GTG→GCH→RCG→ SEG→RFG→SAG→HAO→HEO→TCO→LAO If adjustment is OK, Step 4. If adjustment is NG, Step 5.	[✳✳✳ : _ _ _ _ _ _]
Step 4	Grating adjustment, adjustment value output Press once the MD STOP button.	 STEP 2	[_ C O M P L E T E _]
Step 5	Adjustment value output Press once the MD STOP button.	 STEP 2 AUTO pre-adjustment menu	[C a n ' t _ A D J .]

• ✳✳✳ : Adjustment name, □□□□ : Address

2. AUTO adjustment mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button two times.	AUTO adjustment menu	[A U T O _ A J S T _]
Step 3	Press once the MD PLAY button. End of adjustment	The slide moves to the innermost periphery, and automatic adjustment is started. • In case of high reflection disc ✳✳✳ changes as follows. PEG→HAG •In case of low reflection disc ✳✳✳ changes as follows. PEG→LAG→GCG→GEG→LAG If adjustment is OK, Step 4. If adjustment is NG, Step 7.	[✳✳✳ : _ _ _ _ _ _]
Step 4	Adjustment value output Press the MD PLAY button. Press the MD STOP button.	 STEP 5 STEP 2	[_ C O M P L E T E _]
Step 5	Continuous playback (pit section) Continuous playback (groove section)		[s□□□□c○○○○] [a□□□□c○○○○]
Step 6	Press the CD STOP button. Press the MD STOP button.	Continuous playback (groove section) STEP 2 AUTO adjustment menu	[a□□□□a○○○○]
Step 7	Adjustment value output Press the MD STOP button.	 STEP 2 AUTO adjustment menu	[C a n ' t _ A D J .]

• ✳✳✳ : Adjustment name, ○○ : Measurement value, □□□□ : Address

3. RESULT sub-mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button three times.	RESULT sub-menu	[_ R S T _ Y O B I _]
Step 3	Press once the MD PLAY button.	Indication of measurement value	[R F G : _ ○○ _ _●]
Step 4	Press once the CD PLAY button.	Indication of measurement value	[R C G : _ ○○ _ _●]
Step 5	Press once the CD PLAY button.	Indication of measurement value	[R T G : _ _ _ _ _ ●]
Step 6	Press once the CD PLAY button.	Indication of measurement value	[G T G : _ _ _ _ _ ●]
Step 7	Press once the CD PLAY button.	Indication of measurement value	[P C H : _ _ _ _ ●●]
Step 8	Press once the CD PLAY button.	Indication of measurement value	[G C H : _ _ _ _ ●●]
Step 9	Press once the CD PLAY button.	Indication of measurement value	[S A G : _ _ _ ●●●]
Step 10	Press once the CD PLAY button.	Indication of measurement value	[S B G : _ _ _ ●●●]
Step 11	Press once the CD PLAY button.	Indication of measurement value	[S E G : _ _ _ ●●●]
Step 12	Press once the CD PLAY button.	Indication of measurement value	[S F G : _ _ _ ●●●]
Step 13	Press once the CD PLAY button.	Indication of measurement value	[H A O : ○○○ _ _ _]
Step 14	Press once the CD PLAY button.	Indication of measurement value	[H B O : ○○○ _ _ _]
Step 15	Press once the CD PLAY button.	Indication of measurement value	[H E O : ○○○ _ _ _]
Step 16	Press once the CD PLAY button.	Indication of measurement value	[H F O : ○○○ _ _ _]
Step 17	Press once the CD PLAY button.	Indication of measurement value	[L A O : ○○○ _ _ _]
Step 18	Press once the CD PLAY button.	Indication of measurement value	[L B O : ○○○ _ _ _]
Step 19	Press once the CD PLAY button.	Indication of measurement value	[L E O : ○○○ _ _ _]
Step 20	Press once the CD PLAY button.	Indication of measurement value	[L F O : ○○○ _ _ _]
Step 21	Press once the CD PLAY button.	Indication of measurement value	[T C O : _ ○○ _ _ _]
Step 22	Press once the CD PLAY button.	Indication of adjustment error sequence No.	[Y O B : _ □□ _ _ _]
Step 23	Press once the CD PLAY button.	Indication of adjustment status	[D I F : _ □□ _ _ _]
Step 24	Press once the CD PLAY button.	Indication of pre-adjustment not completed (00)/completed (4B)	[A D J : _ □□ _ _ _]
Step 25	Press once the MD PLAY button.	RESULT sub-menu state	[_ R S T _ Y O B I _]

• ○○ : Measurement value, ●● : Adjustment value, □□ : Other various informations
• ressing the REC button causes reversing.
• If the VOL UP button is pressed while the set value is indicated, the set value increases, and the new set value is stored in RAM.
• If the VOL DOWN button is pressed while the set value is indicated, the set value reduces, and the new set value is stored in RAM.
• If the VOL UP/VOL DOWN button is held down, the set value changes continuously with 100 ms cycle.
• The digit of increase/decrease by the VOL UP/VOL DOWN button can be shifted with the aid of CD STOP button.

3. RESULT mode (final adjustment)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button four times.	RESULT menu	[_ R E S U L T _ _ _]
Step 3	Press once the MD PLAY button.	Indication of set value	[H A G : _ _ _ ●●●]
Step 4	Press once the CD PLAY button.	Indication of set value	[H B G : _ _ _ ●●●]
Step 5	Press once the CD PLAY button.	Indication of set value	[L A G : _ _ _ ●●●]
Step 6	Press once the CD PLAY button.	Indication of set value	[L B G : _ _ _ ●●●]
Step 7	Press once the CD PLAY button.	Indication of set value	[P E G : _ _ _ ●●●]
Step 8	Press once the CD PLAY button.	Indication of set value	[P F G : _ _ _ ●●●]
Step 9	Press once the CD PLAY button.	Indication of set value	[G E G : _ _ _ ●●●]
Step 10	Press once the CD PLAY button.	Indication of set value	[G F G : _ _ _ ●●●]
Step 11	Press once the CD PLAY button.	Indication of set value	[G C G : _ _ _ _ ●●]
Step 12	Press once the MD STOP button.	RESULT menu state	[_ R E S U L T _ _ _]

• ●● : Measurement value
• ressing the REC button causes reversing.
• If the VOL UP button is pressed while the set value is indicated, the set value increases, and the new set value is stored in RAM.
• If the VOL DOWN button is pressed while the set value is indicated, the set value reduces, and the new set value is stored in RAM.
• If the VOL UP/VOL DOWN button is held down, the set value changes continuously with 100 ms cycle.
• The digit of increase/decrease by the VOL UP/VOL DOWN button can be shifted with the aid of CD STOP button.

5. MANUAL auxiliary adjustment mode (only low reflection disc)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button five times.	MANUAL auxiliary adjustment mode	[_ M N U _ Y O B I _]
Step 3	Press once the MD PLAY button.	Initial setting → Temperature measuring mode	[T M P : _ △△ _ _ _]
Step 4	Press once the CD PLAY button.	Offset "0" setting → A signal offset tentative measurement	[H A o : △△△ _ _ _]
Step 5	Press once the CD PLAY button.	B signal offset tentative measurement	[H B o : △△△ _ _ _]
Step 6	Press once the CD PLAY button.	E signal offset tentative measurement	[H E o : △△△ _ _ _]
Step 7	Press once the CD PLAY button.	F signal offset tentative measurement	[H F o : △△△ _ _ _]
Step 8	Press once the CD PLAY button.	Offset tentative measurement → Laser ON	[L O N : _ _ _ _ _ _]
Step 9	Press once the CD PLAY button.	Innermost periphery move → RF side FG rough adjustment	[R F g : △△△ _ _ ●]
Step 10	Press once the CD PLAY button.	Focus ATT (A signal) tentative setting	[S A g : △△△○○○]
Step 11	Press once the CD PLAY button.	Focus ATT (B signal) tentative setting	[S B g : △△△○○○]
Step 12	Press once the CD PLAY button.	RF side pit section TG adjustment	[P T G : △△△ _ _ ●]
Step 13	Press once the CD PLAY button.	Pit section COUT level setting	[P C H : △△△ _ ○○]
Step 14	Press once the CD PLAY button.	Outer periphery move → RF side groove TG adjustment	[G T G : △△△ _ _ ●]
Step 15	Press once the CD PLAY button.	Groove section COUT level setting	[G C H : △△△ _ ○○]
Step 16	Press once the CD PLAY button.	RF side TCRS adjustment	[R C G : △△△ _ _ ●]
Step 17	Press once the CD PLAY button.	Tracking ATT (E signal) setting	[S E G : △△△○○○]
Step 18	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[S F G : △△△○○○]
Step 19	Press once the CD PLAY button.	Indication of tracking EFMIO measurement	[g M I : △△△ _ _ _]
Step 20	Press once the CD PLAY button.	RF side pit section FG adjustment	[R F G : △△△ _ _ ●]
Step 21	Press once the CD PLAY button.	Focus ATT (A signal) setting	[S A G : △△△○○○]
Step 22	Press once the CD PLAY button.	Focus ATT (B signal) setting	[S B G : △△△○○○]
Step 23	Press once the CD PLAY button.	Offset "0" setting → A signal offset measurement	[H A O : △△△ _ _ _]
Step 24	Press once the CD PLAY button.	B signal offset measurement	[H B O : △△△ _ _ _]
Step 25	Press once the CD PLAY button.	E signal offset measurement	[H E O : △△△ _ _ _]
Step 26	Press once the CD PLAY button.	F signal offset measurement	[H F O : △△△ _ _ _]
Step 27	Press once the CD PLAY button.	TCRS signal offset measurement	[T C O : △△△ _ _ _]
Step 28	Press once the CD PLAY button.	A signal offset measurement	[L A O : △△△ _ _ _]
Step 29	Press once the CD PLAY button.	B signal offset measurement	[L B O : △△△ _ _ _]
Step 30	Press once the CD PLAY button.	E signal offset measurement	[L E O : △△△ _ _ _]
Step 31	Press once the CD PLAY button.	F signal offset measurement	[L F O : △△△ _ _ _]

• △△△ : Measurement value, ● : Set value, ○○○ : Account value

• If the VOL UP/VOL DOWN button is pressed during setting indication, the setting increases/decreases, and the new setting is stored in RAM.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.
• If the REC button is pressed, the setting returns step by step excepting the following case.
A signal offset (HAO) → Offset tentative setting → RF side FG adjustment (RFG)
RF side TCRS adjustment (RCG) → RF side groove TG adjustment (GTG)
RF side groove TG adjustment (GTG) → Innermost periphery move → RF side pit section adjustment (PTG)
RF side pit TG adjustment (PTG) → RF side FG rough adjustment (RFg) → Laser lighting (LON)
Laser lighting (LON) → Offset "0" setting → A signal offset tentative measurement (HAo)
If the measurement value is within the OK range, " ✳ " appears on the 8th character.

6. MANUAL adjustment mode

High reflection disc

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button six times.	MANUAL adjustment menu	[_ M N U _ A J S T _]
Step 3	Press once the MD PLAY button.	Initial setting → Temperature measuring mode	[T M P : _ △△ _ _ _]
Step 4	Press once the CD PLAY button.	Laser ON	[L O N : _ _ _ _ _ _]
Step 5	Press once the CD PLAY button.	Innermost periphery move → Tracking ATT (E signal) setting	[P E G : △△△○○○]
Step 6	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[P F G : △△△○○○]
Step 7	Press once the CD PLAY button.	Indication of tracking EFMIO measurement	[P M I : △△△ _ _ _]
Step 8	Press once the CD PLAY button.	Focus ATT (A signal) setting	[H A G : △△△○○○]
Step 9	Press once the CD PLAY button.	Focus ATT (B signal) setting	[H B G : △△△○○○]

• If the MD STOP button is pressed while the MANUAL adjustment menu is displayed, the state is changed to the TEST mode STOP state.
• If the REC button is pressed, the setting returns step.

Low reflection disc

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button six times.	MANUAL adjustment menu	[_ M N U _ A J S T _]
Step 3	Press once the MD PLAY button.	Initial setting → Temperature measuring mode	[T M P : _ △△ _ _ _]
Step 4	Press once the CD PLAY button.	Laser ON	[L O N : _ _ _ _ _ _]
Step 5	Press once the CD PLAY button.	Innermost periphery move → Tracking ATT (E signal) setting	[P E G : △△△○○○]
Step 6	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[P F G : △△△○○○]
Step 7	Press once the CD PLAY button.	Indication of tracking EFMIO measurement (pit section)	[P M I : △△△ _ _ _]
Step 8	Press once the CD PLAY button.	Focus ATT (A signal) setting	[L A g : △△△○○○]
Step 9	Press once the CD PLAY button.	Focus ATT (B signal) setting	[L B g : △△△○○○]
Step 10	Press once the CD PLAY button.	Outside periphery move → Track closs setting	[G C G : △△△○○○]
Step 11	Press once the CD PLAY button.	Tracking ATT (E signal) setting	[G E G : △△△○○○]
Step 12	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[P F G : △△△○○○]
Step 13	Press once the CD PLAY button.	Indication of tracking EFMIO measurement (groove section)	[G M I : △△△ _ _ _]
Step 14	Press once the CD PLAY button.	Focus ATT (A signal) setting	[L A G : △△△○○○]
Step 15	Press once the CD PLAY button.	Focus ATT (B signal) setting	[L B G : △△△○○○]

• If the MD STOP button is pressed while the MANUAL adjustment menu is displayed, the state is changed to the TEST mode STOP state.
• If the REC button is pressed, the setting returns step by step excepting the following case.
Track closs ATT setting (GTG) → Innermost periphery move → Focus ATT (B signal) setting (LBg)

7. EEPROM setting mode

a) Focus setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seventimes.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press once the MD PLAY button.	Focus system loop filter gain constant setting	[F G _ _ _ _ _ _ ◆◆]
Step 5	Press once the CD PLAY button.	Focus system loop filter f characteristic constant 1 setting	[F F 1 _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Focus system loop filter f characteristic constant 2 setting	[F F 2 _ _ _ _ _ ◆◆]
Step 7	Press once the CD PLAY button.	FZC oscillation histerisis level setting a	[F Z H L E V _ _ ◆◆]
Step 8	Press once the CD PLAY button.	Comparison level setting (normal) in case of FOK generation	[F O K L E V n _ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 9	Press once the CD PLAY button.	Comparison level setting in case of FOK generation (when focus is "ON")	[F O K L E V f _ ◆◆]
Step 10	Press once the CD PLAY button.	LPF coefficient setting (normal) in case of FOK generation	[F O K L P F n _ ◆◆]
Step 11	Press once the CD PLAY button.	LPF coefficient setting in case of FOK generation (when focus is "ON")	[F O K L P F f _ ◆◆]
Step 12	Press once the CD PLAY button.	Waiting time setting in case of auto-focus retraction	[W A I T f _ _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

b) Spindle setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press once the CD PLAY button.	Spindle setting menu	[_ S p i n d l e _ _]
Step 5	Press once the MD PLAY button.	Spindle system loop filter gain constant setting (Until tracking servo ON)	[S P G _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Spindle system loop filter gain constant setting (After tracking servo ON, inner periphery)	[S P G _ i n _ _ ◆◆]
Step 7	Press once the CD PLAY button.	Spindle system loop filter gain constant setting (After tracking servo ON, center)	[S P G _ m i d _ ◆◆]
Step 8	Press once the CD PLAY button.	Spindle system loop filter gain constant setting (After tracking servo ON, outside periphery)	[S P G _ o u t _ ◆◆]
Step 9	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 1 setting	[S P 1 _ _ _ _ _ ◆◆]
Step 10	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 2 setting	[S P 2 _ _ _ _ _ ◆◆]
Step 11	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 3 setting	[S P 3 _ _ _ _ _ ◆◆]
Step 12	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 4 setting	[S P 4 _ _ _ _ _ ◆◆]
Step 13	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 5 setting	[S P 5 _ _ _ _ _ ◆◆]
Step 14	Press once the CD PLAY button.	Spindle drive output limitter setting	[S P D L I M _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

c) Tracking setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button two times.	Tracking setting menu	[_ T r a c k i n g _]
Step 5	Press once the MD PLAY button.	Tracking system loop filter gain constant setting	[T G _ _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 1 setting	[T F 1 _ _ _ _ _ ◆◆]
Step 7	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 2 setting	[T F 2 _ _ _ _ _ ◆◆]
Step 8	Press once the CD PLAY button.	Setting of tracking system servo mode 4	[S V C N T 4 _ _ ◆◆]
Step 9	Press once the CD PLAY button.	Tracking deceleration pulse level setting (for one line jump)	[T R B L V 0 _ _ ◆◆]
Step 10	Press once the CD PLAY button.	Tracking deceleration pulse level setting (for 10 line jump)	[T R B L V t _ _ ◆◆]
Step 11	Press once the CD PLAY button.	Tracking kick pulse level setting (for one line jump)	[T R K L V 0 _ _ ◆◆]
Step 12	Press once the CD PLAY button.	Tracking kick pulse level setting (for 10 line jump)	[T R K L V t _ _ ◆◆]
Step 13	Press once the CD PLAY button.	Tracking drive pulse width setting (for one line jump)	[T D P W o _ _ _ ◆◆]
Step 14	Press once the CD PLAY button.	Tracking drive pulse width setting (for 10 line jump)	[T R K L V 0 _ _ ◆◆]
Step 15	Press once the CD PLAY button.	Tracking slip stop time setting (for one line jump)	[S L C T 0 _ _ _ ◆◆]
Step 16	Press once the CD PLAY button.	Tracking slip stop time setting (for 10 line jump)	[S L C T t _ _ _ ◆◆]
Step 17	Press once the CD PLAY button.	Tracking slip stop time setting (move)	[S L C T m _ _ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 18	Press once the CD PLAY button.	TCRS comparison level 1 for high reflection	[T C R S C 1 P _ ◆◆]
Step 19	Press once the CD PLAY button.	Comparison level in case of COUT generation (playback)	[C O T L V P _ ◆◆]
Step 20	Press once the CD PLAY button.	Comparison level in case of COUT generation (pecord)	[C O T L V r _ ◆◆]
Step 21	Press once the CD PLAY button.	Auto-move waiting time setting	[W A I T m_ _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

d) Slide setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button three times.	Slide setting menu	[_ _ _ S l e d _ _ _]
Step 5	Press once the MD PLAY button.	Slide system loop filter gain constant setting	[S L G _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Slide system loop filter f characteristic constant 2 setting	[S L 2 _ _ _ _ _ ◆◆]
Step 7	Press once the CD PLAY button.	Slide output limitter setting	[S L D L I M _ _ ◆◆]
Step 8	Press once the CD PLAY button.	Slide servo output dead zone level setting	[S L D L E V _ _ ◆◆]
Step 9	Press once the CD PLAY button.	Slide kick pulse level setting (forced move)	[S L K L V k _ _ ◆◆]
Step 10	Press once the CD PLAY button.	Slide kick pulse level setting (for 10 lines jump auxiliary use)	[S L K L V t _ _ ◆◆]
Step 11	Press once the CD PLAY button.	Slide kick pulse level setting (move)	[S L K L V m _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

Temperature measurement value correction table

Ambient temperature	correction
+ 12.2 °C ~ + 15.8 °C	-0 3 H
+ 15.9 °C ~ + 19.6 °C	-0 2 H
+ 19.7 °C ~ + 23.2 °C	-0 1 H
+ 23.2 °C ~ + 26.8 °C	± 0 H
+ 26.9 °C ~ + 30.7 °C	+0 1 H
+ 30.8 °C ~ + 34.3 °C	+0 2 H
+ 34.4 °C ~ + 37.9 °C	+0 3 H

EEPROM record value = Microcomputer measurement value + Correction

* EEPROM record value
  Value to be measured by the microcomputer at +25°C
* Microcomputer measurement value
  Value to be measured by the microcomputer at specific temperature
* Correction value
  Correction value for conversion to measurement value at +25°C (see the table shown left)

Note
1. Do without mechanical connection.
2. Do immediately after turning on the power.

• Temperature code check
The temperature code is read after automatic adjustment. If it is within the range shown below, the adjustment is OK.

Ambient temperature	temperature code
+ 19.6 °C ~ + 30.7 °C	0 6
+ 8.7 °C ~ + 19.6 °C	0 7

e) TEMP setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button four times.	TEMP setting menu	[_ _ _ T e m p _ _ _]
Step 5	Press once the MD PLAY button.	TEMP reference value setting	[T E M P _○○_ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 1	EJECT state (or mechanism-less state)		[_ _ E J E C T _ _ _]
Step 2	Press the CD►MD EDIT button.	TEMP reference value setting	[T E M P _○○_ ◆◆]

• ◆◆ : Setting volue, ○○ **:** Measurement value
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

f) CONTROL setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button five times.	CONTROL setting menu	[_ C o n t r o l _ _]
Step 5	Press once the MD PLAY button.	CONTROL 1 setting	[C O N T R L 1_ ◆◆]
Step 6	Press once the CD PLAY button.	CONTROL 2 setting	[C O N T R L 2_ ◆◆]
Step 7	Press once the CD PLAY button.	Setting of spin kick level in MOVE state	[S P K L E V m_ ◆◆]
Step 8	Press once the CD PLAY button.	Setting of readjustment interval time (minutes)	[A D J T T M_ _ ◆◆]
Step 9	Press once the CD PLAY button.	Setting of equalizer coefficients A and D (high reflection)	[H D E Q A D_ _ ◆◆]
Step 10	Press once the CD PLAY button.	Setting of equalizer coefficients A and D (low reflection pit)	[L D E Q A D_ _ ◆◆]
Step 11	Press once the CD PLAY button.	Setting of equalizer coefficients A and D (low reflection groove)	[G D E Q A D_ _ ◆◆]
Step 12	Press once the CD PLAY button.	Setting of equalizer coefficients B and C (high reflection)	[H D E Q B C_ _ ◆◆]
Step 13	Press once the CD PLAY button.	Setting of equalizer coefficients B and C (low reflection pit)	[L D E Q B C_ _ ◆◆]
Step 14	Press once the CD PLAY button.	Setting of equalizer coefficients B and C (low reflection groove)	[G D E Q B C_ _ ◆◆]
Step 15	Press once the CD PLAY button.	Setting of autolevel slicer gain (high reflection)	[H A L S G_ _ _ ◆◆]
Step 16	Press once the CD PLAY button.	Setting of autolevel slicer gain (low reflection pit)	[L A L S G_ _ _ ◆◆]
Step 17	Press once the CD PLAY button.	Setting of autolevel slicer gain (low reflection groove)	[G A L S G _ _ ◆◆]
Step 18	Press once the CD PLAY button.	Setting of autolevel slicer offset (high reflection)	[H A L S O F_ _ ◆◆]
Step 19	Press once the CD PLAY button.	Setting of autolevel slicer offset (low reflection pit)	[L A L S O F S _ _ ◆◆]
Step 20	Press once the CD PLAY button.	Setting of autolevel slicer offset (low reflection groove)	[G A L S O F S _ _ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 1	EJECT state (or mechanism-less state)		[_ _ E J E C T _ _ _]
Step 2	Press the TRACK EDIT button.	CONTROL 1 setting	[C O N T R L 1_ ◆◆]
Step 3	Press once the CD PLAY button.	CONTROL 2 setting	[C O N T R L 2_ ◆◆]

• ◆◆ : Setting volue
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.
• CONTROL 1
  Pit 7 : High frequency superposition ON/OFF in record mode (0:OFF, 1:ON)
  Pit 6~4 : Play start SD number (30 to 100 sector, 10 sector step)
  Pit 2~0 : High speed jump over-run (384 to 830 lines, 64 lines step)
• CONTROL 2
  Pit 4~0 : EEPROM version (a~)

8. TEST-PLAY mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD►MD EDIT button.	TEST-PLAY menu	[T E S T _ P L A Y _]
Step 3	Press once the CD STOP button. Press once the MD PLAY button.	ADRES setting (Target address initial value is indicated) While searching, set the search output to "H". To start continuous play, return it to "L".	[A D R E S _ 0 0 5 0]
Step 4	Continuous playback (pit section) Continuous playback (groove section)	(Address + C1 error indication) (Address + C1 error indication)	[s □□□□ c ○○○○] [a □□□□ c ○○○○]
Step 5	Press once the CD STOP button. Continuous playback (groove section)	(Address + ADIP error indication)	[a □□□□ a ○○○○]
Step 6	Press once the MD STOP button.	TEST-PLAY menu	[T E S T _ P L A Y _]

• If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
• If the MD PLAY button is pressed while the TEST-PLAY menu is displayed, continuous playback is started from the current pickup position.
• Whenever the CD►MD EDIT button is pressed in the address setting mode, the address changes as follows.
0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 → ……
• Whenever the CD STOP button is pressed in the address setting mode, the digit which is changed with - I◄◄ / ►►I + changes as follows.
0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 → ……
• The digit of address which has been specified with - I◄◄ / ►►I + and CD STOP button in the address setting mode is set to +01H/-01H.(0~F)
* If the - I◄◄ / ►►I + button is held down, the setting changes continuously with 100 ms cycle.
• If the TRACK EDIT button is pressed in the continuous playback mode, the number of jump lines changes as follows.
1 line → 10 line → 400 line → 1 line → ……
* After the number of jump lines is indicated for one second, the address indication is restored. [▲▲▲T R _ J U M P]
• If the - I◄◄ / ►►I + button is pressed in the continuous playback mode, the specified number of lines is jumped in the FWD/REV direction.
* If the - I◄◄ / ►►I + button is held down, the setting changes with 100 ms cycle.
• Whenever the CD STOP button is pressed in the continuous playback mode, the indication changes as follows.
* Pit section Continuous playback (SUBQ address indication + C1 error indication) remains. [s □□□□ c ○○○○]
* Groove section Continuous playback (ADIP address indication + C1 error indication) remains. [a □□□□ c ○○○○]
↓
Continuous playback (ADIP address indication + ADIP error indication) remains. [a □□□□ a ○○○○]
↓
Continuous playback (ADIP address indication + C1 error indication) remains. [a □□□□ c ○○○○]
↓
• □□□□ : Adress, ○○○○ : Error late, ▲▲▲ : Jump lines

9. TEST-REC mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD►MD EDIT button.	TEST-REC menu	[T E S T _ R E C _ _]
Step 3	Press once the CD STOP button.	ADRES setting (indication of address initial value)	[a 0 0 5 0 _ p w ▽▽]
Step 4	Press once the MD PLAY button.	While searching, set the search output to "H". To start continuous play, return it to "L". Continuous recording	[a □□□□ p w ▽▽]
Step 5	Press once the MD STOP button.	TEST-REC menu	[T E S T _ R E C _ _]

• If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
• If the MD PLAY button is pressed while the TEST-REC menu is displayed, continuous record is started from the current pickup position.
• Whenever the CD►MD EDIT button is pressed in the address setting mode, the address changes as follows.
0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 → ……
• Whenever the CD STOP button is pressed in the address setting mode, the digit which is changed with - I◄◄ / ►►I + changes as follows.
0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 → ……
• The digit of address which has been specified with - I◄◄ / ►►I + and CD STOP button in the address setting mode is set to +01H/-01H.(0~F)
* If the - I◄◄ / ►►I + button is held down, the setting changes continuously with 100 ms cycle.
• If the VOL UP/VOL DOWN button is pressed in TEST-REC mode and continuous record mode, the laser record power changes. (Servo gain changes also according to the record power.)
• □□□□ : Adress, ▽▽ : Laser power cord

10. INNER mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the TRACK EDIT button.	INNER menu	[_ _ I N N E R _ _]
Step 3	Press once the MD PLAY button.	INNER switch position measurement (SUBQ address and C1 error are also indicated.)	[s □□□□ c ○○○○]
Step 4	Press once the MD STOP button.	INNER menu	[_ _ I N N E R _ _]

• □□□□ : Adress
• Press the MD STOP button while the INNER menu is displayed, to shift to the TEST mode STOP state.

11. EJECT mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode EJECT state		[_ _ E J E C T _ _ _]
Step 2	Press oncethe CD STOP button.	Max. power output state	[x p w _ _ _ _ _ _ _]
Step 3	Press once the CD STOP button.	Record power output state	[r p w _ _ _ _ _ _ _]
Step 4	Press once the CD STOP button.	Playback power output state	[p p w _ _ _ _ _ _ _]
Step 5	Press the CD►MD EDIT button.	TEMP setting of EEPROM setting (Refer to TEMP setting of EEPROM)	
Step 6	Press the TRACK EDIT button.	CONTROL setting of EEPROM setting (Refer to CONTROL setting of EEPROM)	

● Lead-in switch position measurement mode

Note: Adjust the lead-in switch position to 5FF85 to FFD2.

1. Loosen the screw (A) x 2 pcs. which fix the mechanism switch PWB.
2. Retighten the screw, pressing the mechanism switch PWB in the arrow direction, and then measure the lead-in switch position again.

After position adjustment fix with the two screws (A). (See Fig. 26-1.)
Note: After tightening the two screws on the PWB apply Screw Lock.

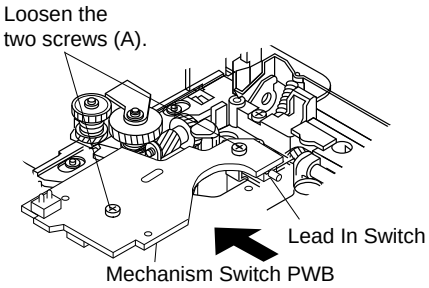


Figure 26-1

● Forced rotation of loading motor

While the display indication is test mode STOP state or EJECT state, the loading motor can be forcibly rotated by press theVOL UP/DOWN button.

● Mechanism Adjustment

1. Optical pickup grating inspecting method

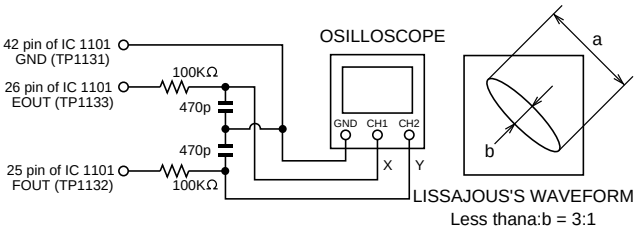


Figure 26-2 Optical Pickup Grating Deviation Measuring Method

After the automatic adjustment is performed in the AUTO mode (test mode) with the aid of high refection MD disc ("COMPLATE" is displayed), the Lissajous's waveform (x-y) is adjusted.
1. Slightly loosen the 3 screws of spindle moto, and maken an adjustment, observing the Lissajous's waveform.
2. After adjustment tighten the screw in arder of ① , ② , ③ .

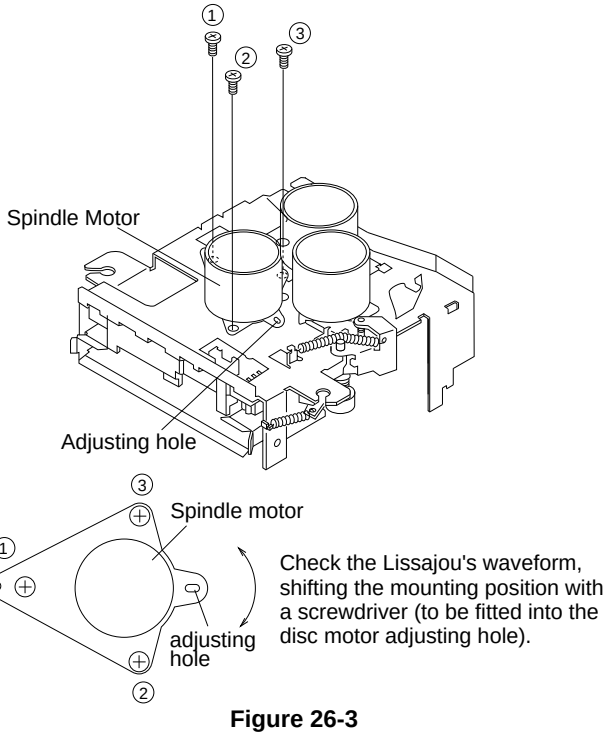


Figure 26-3

2. Jitter adjustment and checking method

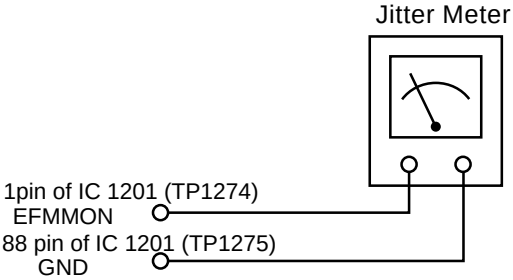


Figure 26-4 Jitter connection diagram

After performing automatic adjustment in AUTO mode of TEST mode using the low reflection MD disc, check this jitter in pit continuous playback and groove continuous playback mode.

EXPLANATION OF ERROR DISPLAY

Error display	Errors	Corrective action
Can't REC	• Defect occurred successively 10 times during REC-PLAY. • As a result of occurrence of defect during REC-PLAY the recordable cluster became zero. • Adress is unreadable. REC state connot be set for 20 seconds although retry is repeated.	• Check that the disc is free from flaw, dust and fingerprint. Check whether there is any black spot. Check for disc disalignment and run-out.
Can't COPY	• The following judgement is made according to the channel status of digital signal which was input from D-IN during REC-PAUSE or REC-PLAY. (1) Other than audio signal (2) Other than signals of home-use appliances (3) Copy NG due to inversion of copy bit in CD.	• Check whether CD is copy-inhibited one. (An exabple: CD-R)
Din UNLOCK	• The digital signal which was input from D-IN during REC-PAUSE, REC-PLAY or CD FUNC playback caused the following. (1) PLL of digital IN was unlocked. (2) Locking occurred in condition other than FS = 44.1 kHz	• Check whether there is any abnormality in the D-IN signal line.
TOC FULL	• There were no areas to record music or character infomation.(music name, disc name, etc.) during REC-PLAY. • When an attempt to start is made, recordable area does not remain.	• Replace the disc with a recording/ playback disc in which an area to register UTOC remains.
UTOC ERR R	• ETNO > LTNO • FTNO ≠ 0 or 1 • UTOC recorded on disc could not be read.	• UTOC data is not normal. Replace the disc with other disc.
UTOC ERR A	• Start address > End address	• UTOC data is not normal. Replace the disc with other disc.
UTOC ERR L0~4	• Any data of UTOC 0 to 4 looped.	• UTOC data is not normal. Replace the disc with other disc.
NOT AUDIO	• Nonaudio data was recorded in the track mode of currently selected TNO.	• Select other TNO or replace the disc with other disc.
? DISC	• Data "MINI" of system ID which has been written in TOC with ASCII code is not correct. • The disc type written i TOC does not correcpond to pre/ mastered MD, recording MD and hybrid MD.	• The loaded disc is not applicable. Replace the disc, and check.
DISC FULL	• When an attempt to set REC-PAUSE was made, there were no recordable areas.	• Replace the disc with other recording disc in which recording area remains.
PLAYBACK MD	• An attempt to set REC-PAUSE or to start editing was made on the playback-only disc.	• The loaded disc is a Playback-only disc. Replace the disc with a recording disc.
PROTECTED	• An attempt to record or edit was made on the record/playback disc with its careless rease preventing tab being in rease preventing state. • An attempt was made t oedit the track which was write-protected by information written in UTOC.	• Return the careless erase preventing tab to its initial position, and redo. • The track on which an attempt to edit was made is a write-protected track. Redo on another track.
Can't EDIT	• Specific editing conditions were not satisfied.	• The applied operation procedure is not proper. Redo, applying the ocrrect procedure.
TEMP OVER	• Owing to occurrence of some trouble internal temperature of set (MD unit) rose excessively.	• Check by troubleshooting. • Check whether the ambient temperature is too high.
DISC ERR RD PA WR	• Read data was not correct or data could not be read correctly. • Trouble occurred during recording if music data, resulting in record failure.	• Data of TOC or UTOC is not normal or disc las flaw. Replace the disc with other disc.
TOC ERR S TOC ERR R TOC ERR T	• TOC was read but data was not correct. • TOC could not be rad.	• The TOC information recorded on disc does not conform to the MD standard. Replace the disc with other disc. • The disc has flaw. Replace the disc with other disc.
UTOC W ERR	• Trouble occurred during rewriting of UTOC, resulting in UTOC rewriting failure.	• The disc has flaw. Replace the disc with other disc.
FOCUS ERROR	• After the disc was loaded, focusing failure occurred.	• Check that the disc is free from flaw, dust, fingerprint and black spot. Check for disc disalignment and run-out.

Error display	Errors	Corrective action
BLANK MD	• UTOC was read but total TNO and the number of characters of NAME was 0?	• Perform recording to check that the disc is recordable disc.
DEFECT	• Focusing error was caused by shock during REC-PLAY.	• Check that the disc is free from flaw, dust, fingerprint and black spot. Check for disc disalignment and run-out.
TOC W ERROR	• Although UTOC can be read but UTOC cannot be rewritten.	• Check that the record head contact is normal. Check that there is no broken wire between PWB and the recording head.
MD ERROR	• Data of EEPROOM is not correct.	• Once reset, and redo. If error occurs persistently, replace EEPROM.
PROTECT	• As a result of occurrence of failure in the power amplifier circuit stage the power supply is turned off, and the "PROTECT" error display blinks.	• Check, applying the trouble-shooting described below.

* For details refer to Trouble-shooting (page75).

EXPLANATION OF MECHANISM ERROR

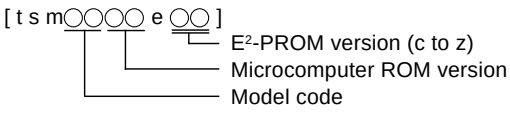
Error display	Errors
M E C H A _ E R R 1 _ *	Ejection failure
M E C H A _ E R R 2 _ *	Head-up failure
M E C H A _ E R R 3 _ *	Head-down failure

	HINF (IC1401 97 PIN)
* = E Ejection completion position	< 1.3 V
* = M Horizontal midway position	> 3.06 V
* = L Load completed position	1.853~2.48 V
* = D Head-down position	1.3~1.853 V

● E²-PROM (IC1402) writing procedure

1. Procedure to replace E²-PROM and to write the initial value of microcomputer in E²-PROM

(1) Replace E²-PROM.
(2) Refer to the latest E²-PROM data list.
(3) Hold down the ►►I button and MD PLAY button, and press the POWER button to enter the test mode.
(4) Indication of version.



(5) Press the CD PLAY key 7 times.
[E E P R O M S E T]
(6) Perform the operation shown in the "E²-PROM setting mode chart", compare the indication with the E²-PROM data list, and make a setting according to the E²-PROM data list, using VOL UP botton or VOL DOWN button.
(7) Set the temperature reference value.
(Refer to "Temperature reference setting procedure".)
(8) The setting must conform to the E²-PROM data list.
(9) Turn off power supply to write in E²-PROM.

2. Temperature reference value setting procedure (to be executed at room temperature within 21 to 29°C)

(1) Test mode stop state.
[t s m○○○○ e ○○]
(2) Crrect temperature depending on ambient temperature according to the following table.

Ambient temperature	correction
+ 12.2 °C ~ + 15.8 °C	-0 3 H
+ 15.9 °C ~ + 19.6 °C	-0 2 H
+ 19.7 °C ~ + 23.2 °C	-0 1 H
+ 23.2 °C ~ + 26.8 °C	± 0 H
+ 26.9 °C ~ + 30.7 °C	+0 1 H
+ 30.8 °C ~ + 34.3 °C	+0 2 H
+ 34.4 °C ~ + 37.9 °C	+0 3 H

An example: When ambient temperature is 22°C and meadured temperature is 73H
Temperature setting = 73 H - 01 H
= 72 H
* When the measured temperature fluctuates between two values, take lower one (if temperature fluctuates between 73H and 72H, take 72H).

(3) Press the CD PLAY button 7 times.
[E E P R O M S E T]
(4) Press the MD PLAY button 1 times.
[F O C U S]
(5) Press the CD PLAY button 4 times.
[T e m p]
(6) Press once the MD PLAY button.
[T E M P ○○ ◆◆]
○○ : Measured temperature, ◆◆ : Temperature setting
(7) Set temperature to the value determined above, using the VOL UP or VOL DOWN button.
(8) Press the MD STOP button.
[T e m p]

● **E²-PROM Data List**

Focus setting

Item indication	Setting
FG ○○	97H
FF1 ○○	9EH
FF2 ○○	E0H
FZHLEV ○○	EDH
FOKLEVn ○○	08H
FOKLEVf ○○	88H
FOKLPFn ○○	00H
FOKLPFf ○○	88H
WAITf ○○	90H

Spin setting

Item indication	Setting
SPG ○○	20H
SPG—in ○○	B8H
SPG—mid ○○	76H
SPG—out ○○	50H
SP1 ○○	10H
SP2 ○○	87H
SP3 ○○	E3H
SP4 ○○	E3H
SP5 ○○	10H
SPDLIM ○○	78H

Tracking setting

Item indication	Setting
TG ○○	45H
TF1 ○○	70H
TF2 ○○	E0H
SVCNT4 ○○	01H
TRBLVo ○○	53H
TRBLVt ○○	60H
TRKLVo ○○	4CH
TRKLVt ○○	38H
TDPWo ○○	89H
TDPWt ○○	1AH
SLCTo ○○	00H
SLCTt ○○	40H
SLCTm ○○	53H
TCRSCIP ○○	16H
COTLVP ○○	14H
COTLVr ○○	28H
WAITm ○○	FFH

Slide setting

Item indication	Setting
SLG ○○	35H
SL2 ○○	27H
SLDLIM ○○	65H
SLDLEV ○○	16H
SLKLVk ○○	55H
SLKLVt ○○	3AH
SLKLVm ○○	55H

Control setting

Item indication	Setting
CONTRL1 ○○	80H
CONTRL2 ○○	02H
SPKLEVm ○○	26H
ADJTTM ○○	14H
HDEQAD ○○	90H
LDEQAD ○○	8FH
GDEQAD ○○	91H
MDEQBC ○○	90H
LDEQBC ○○	8FH
GDEQBC ○○	8AH
HALSG ○○	21H
LALSG ○○	21H
GALSG ○○	21H
HALSOFS ○○	FEH
LALSOFS ○○	00H
GALSOFS ○○	00H

● **E²-PROM Setting Mode Chart**

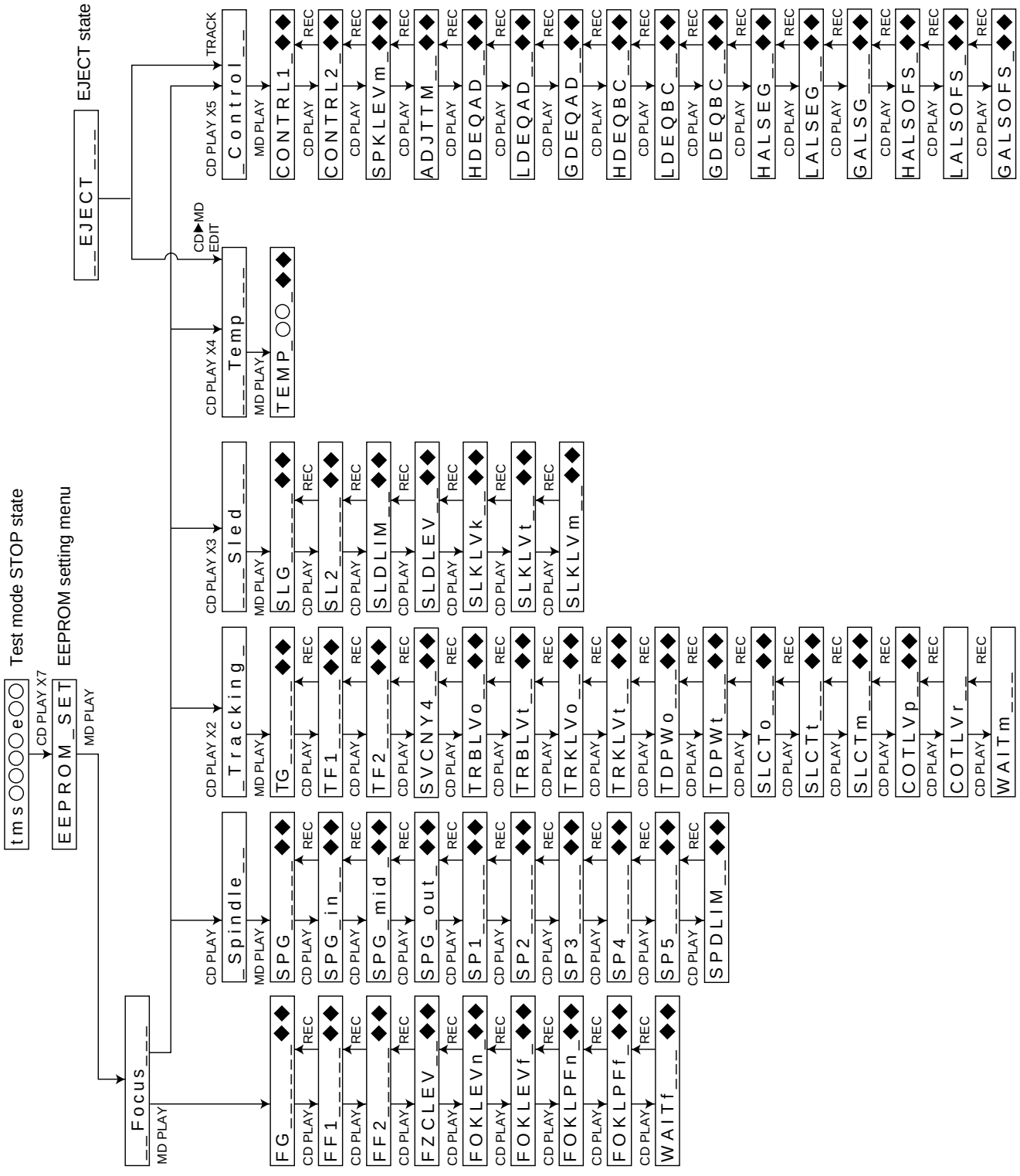


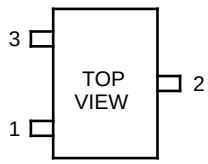
Figure 30

NOTES ON SCHEMATIC DIAGRAM

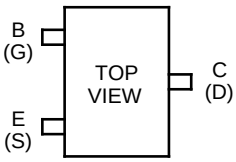
- Resistor:
  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.
  (CH), (TH), (RH), (UJ): Temperature compensation
  (ML): Mylar type
  (P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
  1. In the tuner section,
     ( ) indicates AM
     < > indicates FM stereo
  2. In the main section, a tape is being played back.
  3. In the deck section, a tape is being played back.
     ( ) indicates the record state.
  4. In the power section, a tape is being played back.
  5. In the CD section, the CD is stopped.
- Parts marked with “⚠” (⊏ ═ ═ ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW701	POWER	OFF
SW702	MD > MD EDIT	OFF
SW702A	PICKUP IN	OFF
SW703	TRACK	OFF
SW704	CD > MD EDIT	OFF
SW705	MD RECORD	OFF
SW706	MD EJECT	OFF
SW707	COMPUTER NETWORK	OFF
SW721	DISPLAY	OFF
SW722	TIMER/DELETE	OFF
SW723	NAME/TOC EDIT	OFF
SW724	MESSAGE	OFF
SW725	TUNING/CURSOR DOWN	OFF
SW726	TUNING/CURSOR UP	OFF
SW727	AUX	OFF
SW728	TUNER (BAND)	OFF
SW729	CD DISC 1 OPEN/CLOSE	OFF
SW730	CD DISC 2 OPEN/CLOSE	OFF
SW731	CD DISC 3 OPEN/CLOSE	OFF
SW771	ENTER	OFF
SW772	CD PLAY/PAUSE	OFF
SW773	CD STOP	OFF
SW774	CD DISC 1 PLAY	OFF

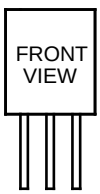
REF. NO	DESCRIPTION	POSITION
SW775	CD DISC 2 PLAY	OFF
SW776	CD DISC 3 PLAY	OFF
SW781	MULTI CONTROL DOWN	OFF
SW782	MULTI CONTROL RIGHT	OFF
SW783	MULTI CONTROL LEFT	OFF
SW784	MULTI CONTROL UP	OFF
SW785	EQUALIZER	OFF
SW786	X-BASS	OFF
SW787	3D SURROUND	OFF
SW788	MD STOP	OFF
SW789	MD PLAY/PAUSE	OFF
SW901	RESET	OFF
SW1952A/B	WRITE PRO/DIRECT	OFF
SW1953	LEAD IN	OFF
SW1954	MD PLAY	OFF
SW1955	MD RECORD	OFF
SW1956	LOADING	ON
SWB101, 102	CAM 1, 2	OFF
SWB103, 104	CAM 3, 4	OFF
SWB105	CD EJECT	OFF
SWB106	CD TRAY CLOSE	OFF
SWB107	CD IN	OFF
SWB108	CD SET	OFF



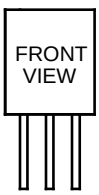
RN2404
RNC1407
RNC1404
RN1406



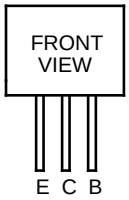
2SA1162 G
2SC2412 KR
2SK2909



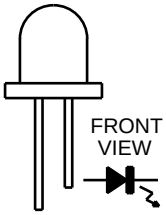
2SA562 Y
2SC1740 SR
2SC380 O
2SD468 C
DTC363 TS
KRA107 M
KRC107 M
KTA1266 GR
KTC3199 GR
KTC3203 Y



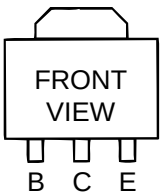
2SD2012



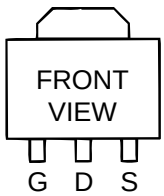
2SB1238 R



SLR325MG
R342VRC7
R342MGF7



2SA1314 C



2SK1473

Figure 31 TYPES OF TRANSISTOR AND LED

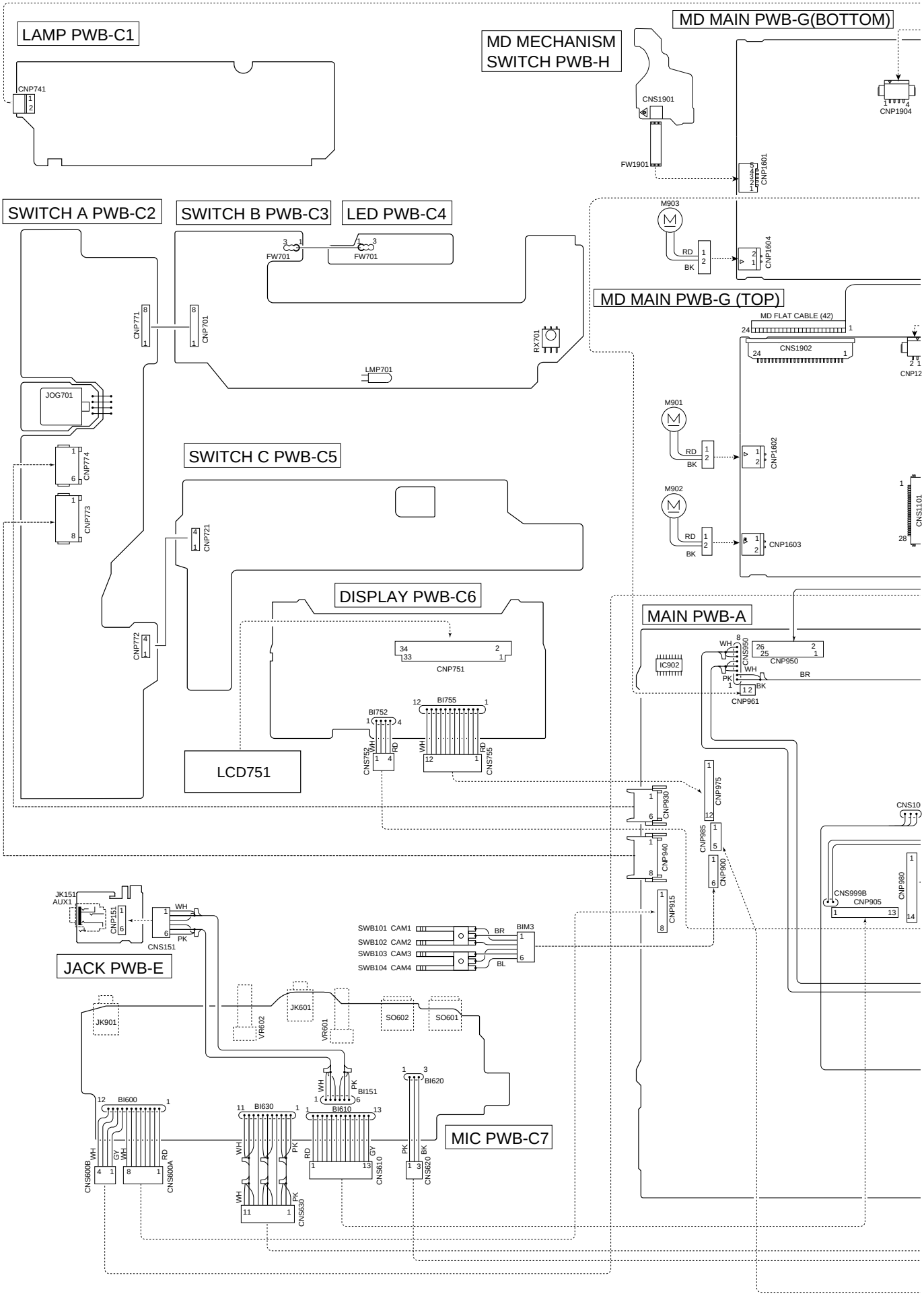
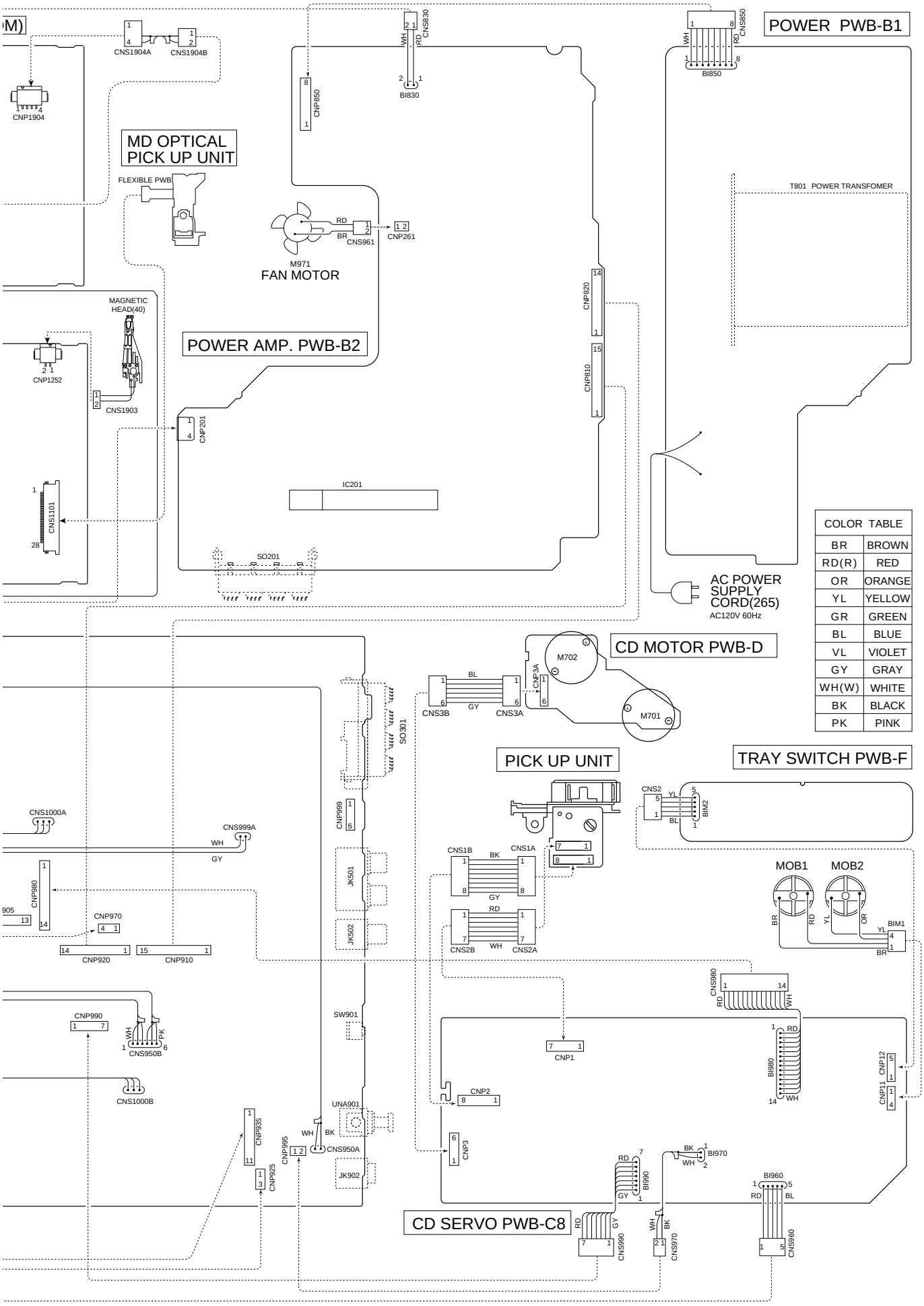


Figure 32 WIRING BLOCK DIAGRAM (1/2)



COLOR TABLE	
BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

Figure 33 WIRING BLOCK DIAGRAM (2/2)

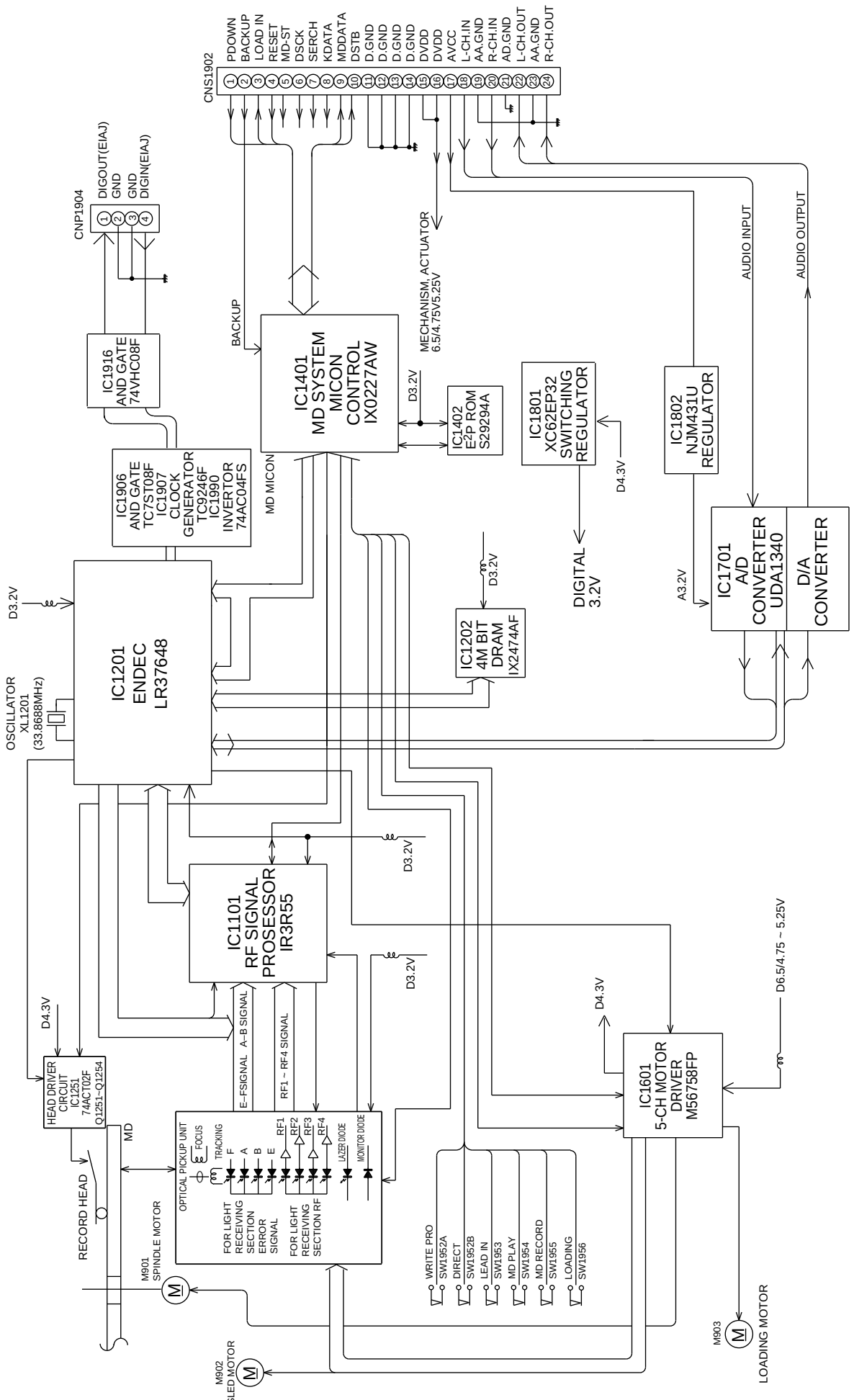


Figure 34 BLOCK DIAGRAM (1/4)

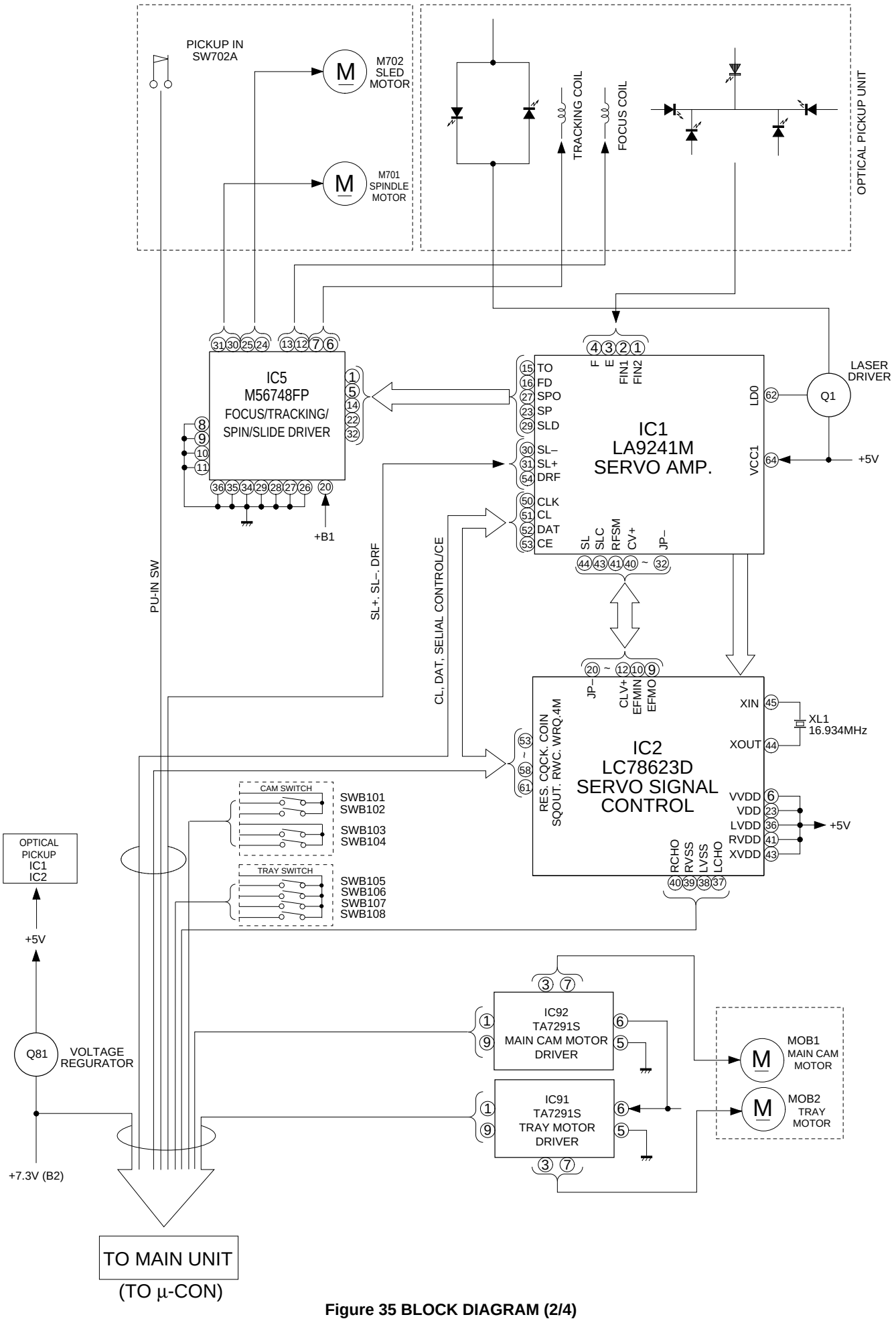


Figure 35 BLOCK DIAGRAM (2/4)

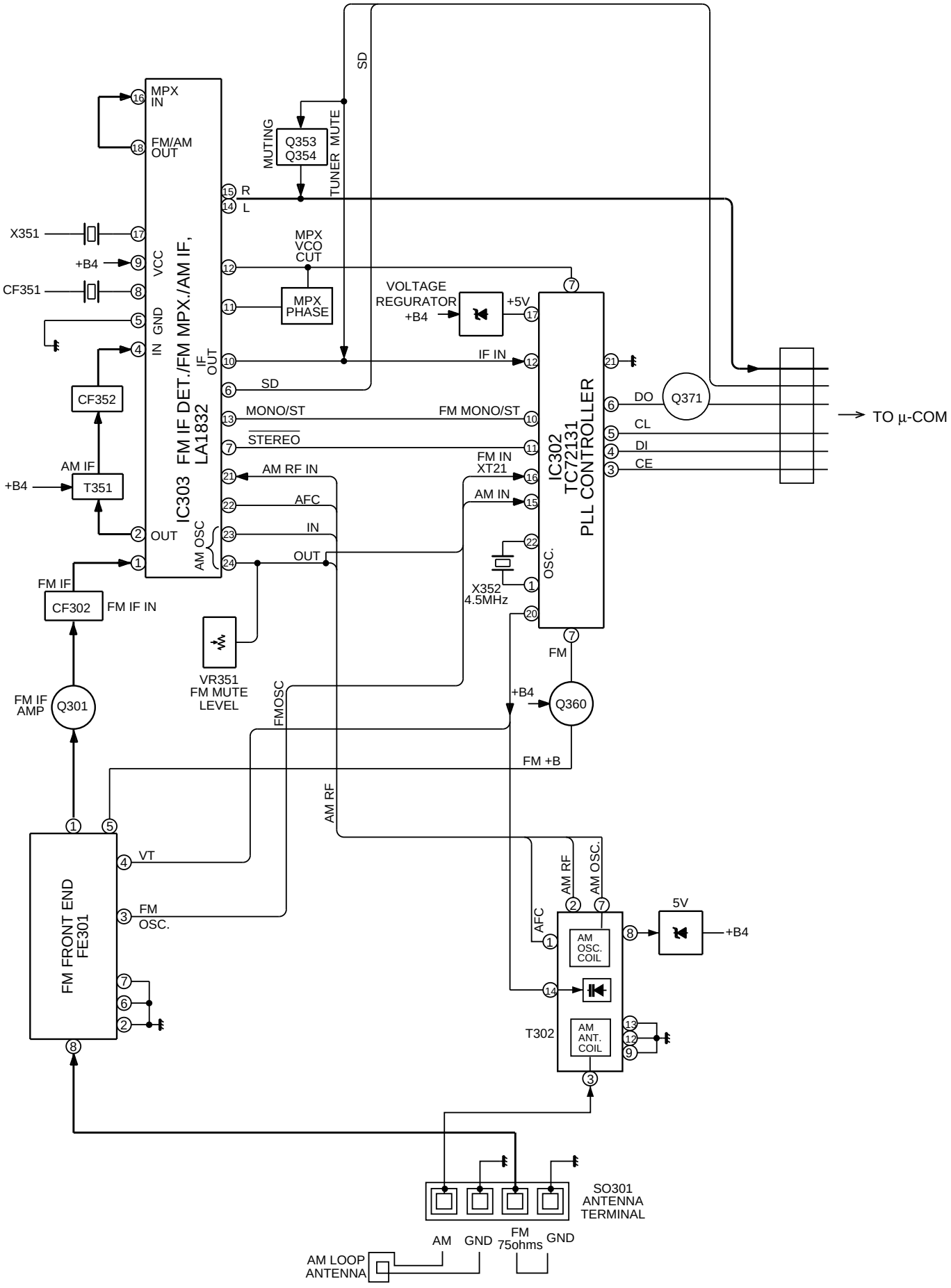


Figure 36 BLOCK DIAGRAM (3/4)

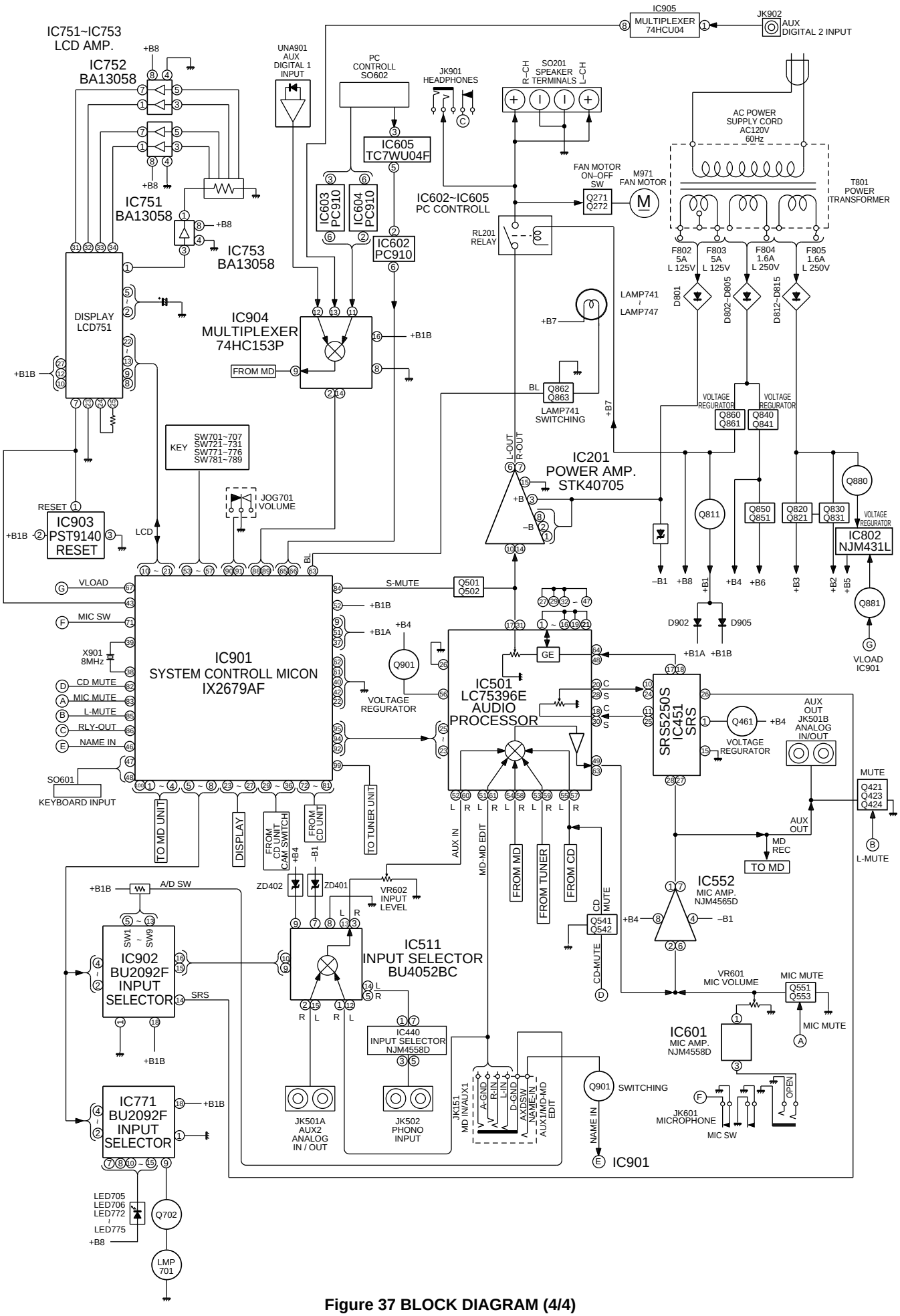
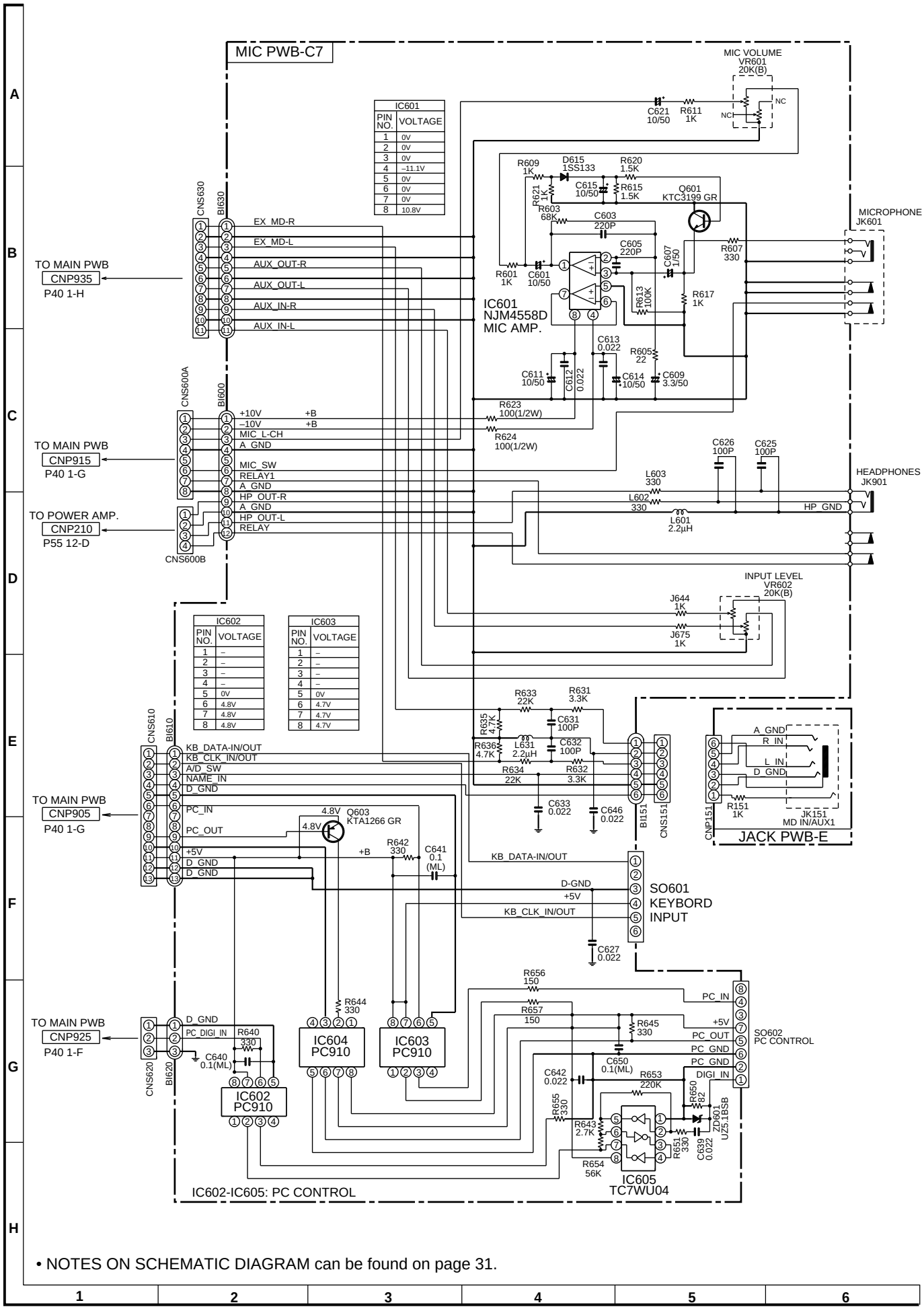
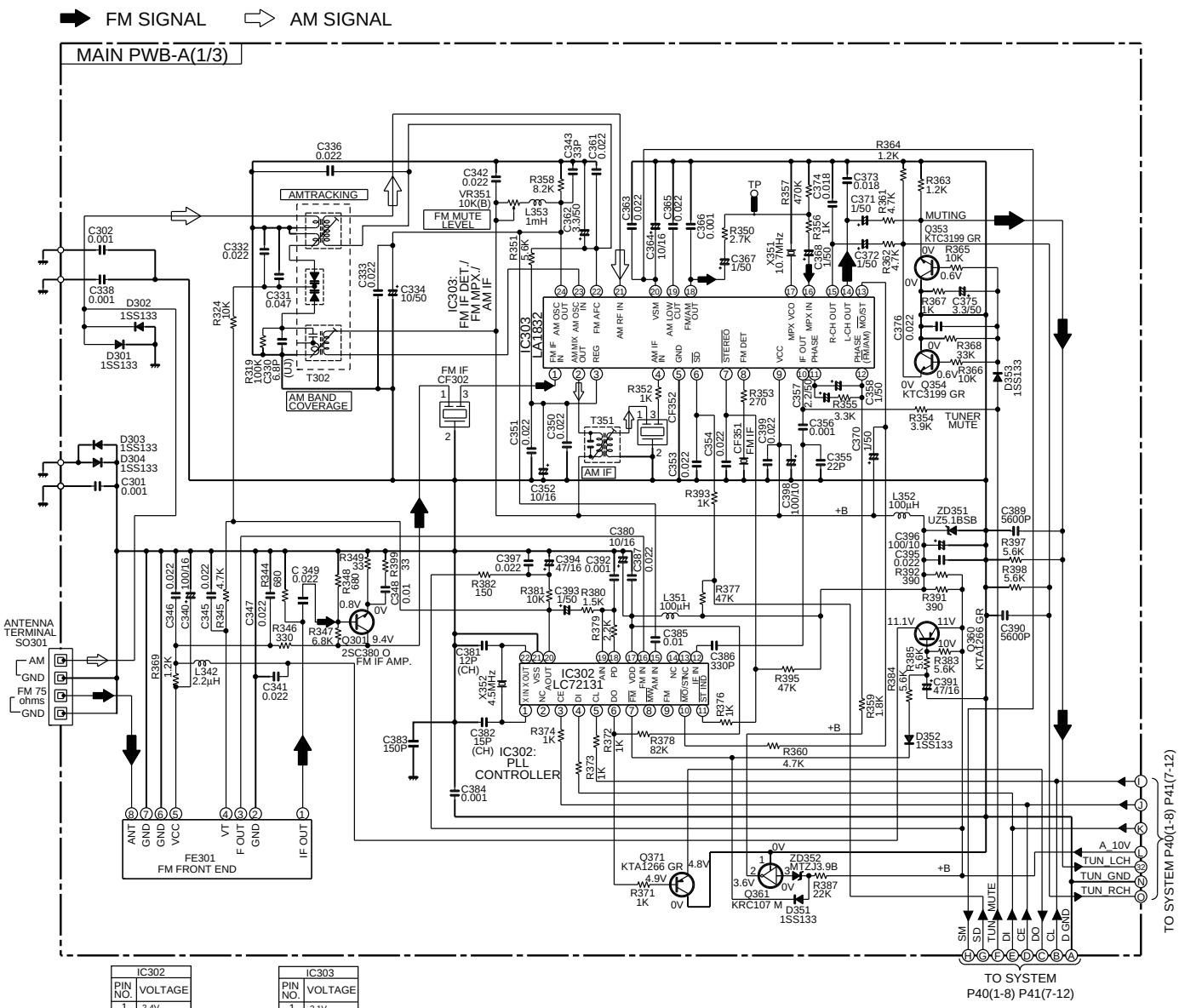


Figure 37 BLOCK DIAGRAM (4/4)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 31.

Figure 38 SCHEMATIC DIAGRAM (1/20)



IC302	
PIN NO.	VOLTAGE
1	2.4V
2	0V
3	0V
4	0V
5	0V
6	4.9V
7	0.2V
8	0V
9	0V
10	3.8V
11	4.9V
12	0V
13	2.2V
14	0V
15	0V
16	2.5V
17	4.9V
18	1V
19	1V
20	0.9V
21	0V
22	2.4V

IC303	
PIN NO.	VOLTAGE
1	2.1V
2	4.9V
3	2.1V
4	2.1V
5	0V
6	4.8V
7	4.95V
8	2..8V
9	4.9V
10	3.7V
11	3.6V
12	3.6V
13	3.8V
14	1.3V
15	1.3V
16	2.1V
17	2.3V
18	1.2V
19	0V
20	1V
21	3.6V
22	3.6V
23	4.9V
24	3.5V

7	8	9	10	11	12

Figure 39 SCHEMATIC DIAGRAM (2/20)

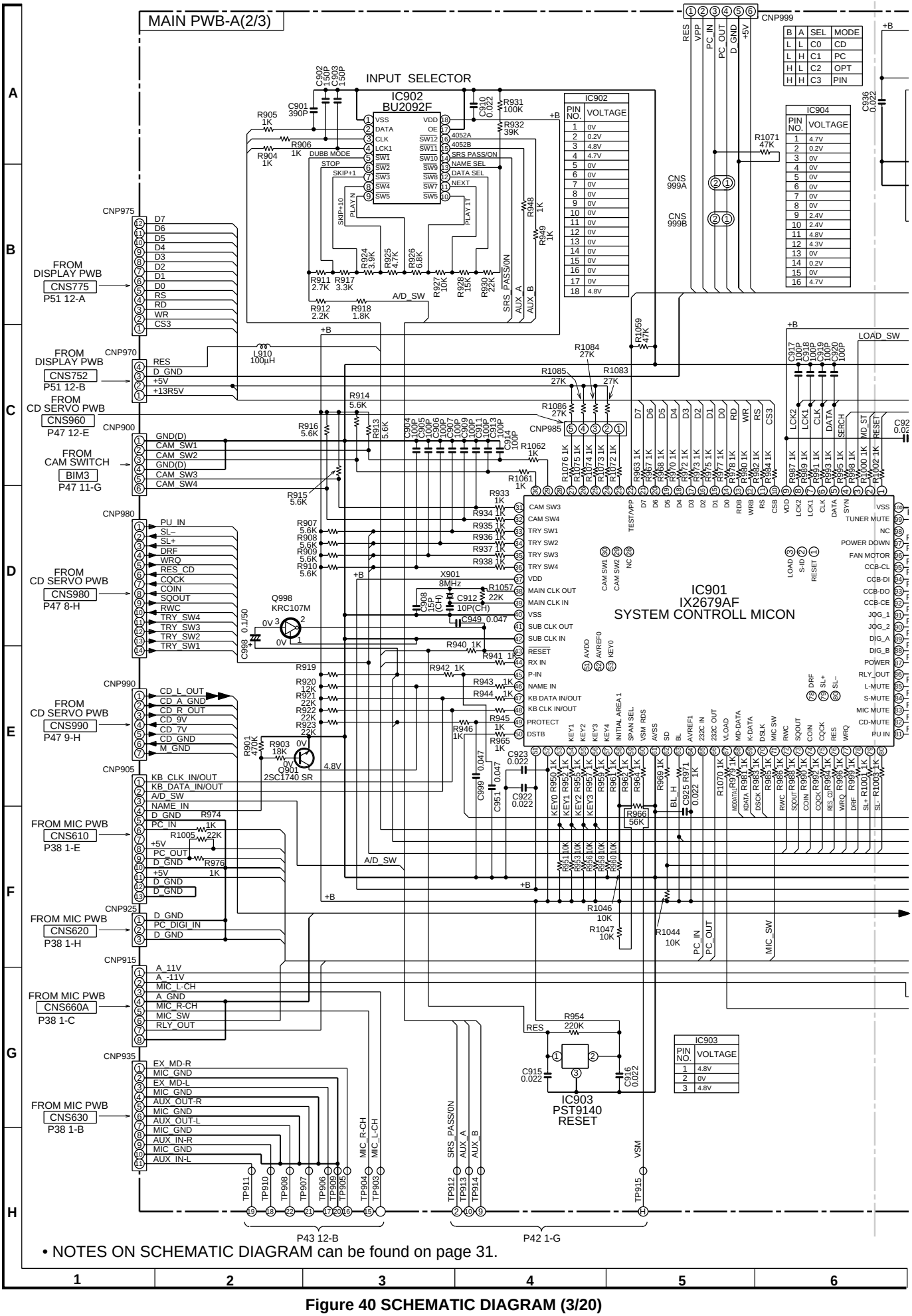
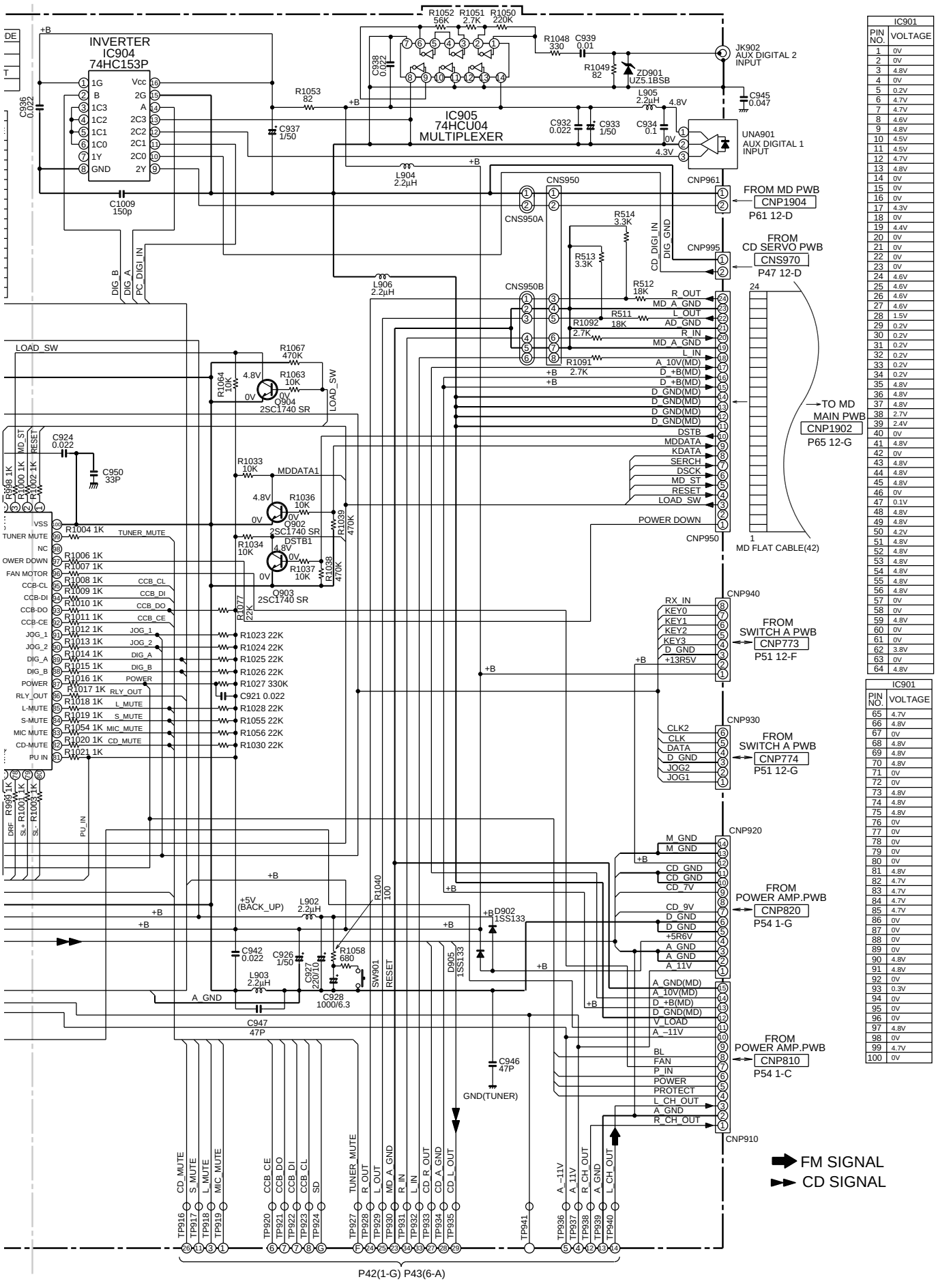


Figure 40 SCHEMATIC DIAGRAM (3/20)



IC901	
PIN NO.	VOLTAGE
1	0V
2	0V
3	4.8V
4	0V
5	0.2V
6	4.7V
7	4.7V
8	4.6V
9	4.8V
10	4.5V
11	4.5V
12	4.7V
13	4.8V
14	0V
15	0V
16	0V
17	4.3V
18	0V
19	4.4V
20	0V
21	0V
22	0V
23	0V
24	4.6V
25	4.6V
26	4.6V
27	4.6V
28	1.5V
29	0.2V
30	0.2V
31	0.2V
32	0.2V
33	0.2V
34	0.2V
35	4.8V
36	4.8V
37	4.8V
38	2.7V
39	2.4V
40	0V
41	4.8V
42	0V
43	4.8V
44	4.8V
45	4.8V
46	0V
47	0.1V
48	4.8V
49	4.8V
50	4.2V
51	4.8V
52	4.8V
53	4.8V
54	4.8V
55	4.8V
56	4.8V
57	0V
58	0V
59	4.8V
60	0V
61	0V
62	3.8V
63	0V
64	4.8V

IC901	
PIN NO.	VOLTAGE
65	4.7V
66	4.8V
67	0V
68	4.8V
69	4.8V
70	4.8V
71	0V
72	0V
73	4.8V
74	4.8V
75	4.8V
76	0V
77	0V
78	0V
79	0V
80	0V
81	4.8V
82	4.7V
83	4.7V
84	4.7V
85	4.7V
86	0V
87	0V
88	0V
89	0V
90	4.8V
91	4.8V
92	0V
93	0.3V
94	0V
95	0V
96	0V
97	4.8V
98	0V
99	4.7V
100	0V

7	8	9	10	11	12

Figure 41 SCHEMATIC DIAGRAM (4/20)

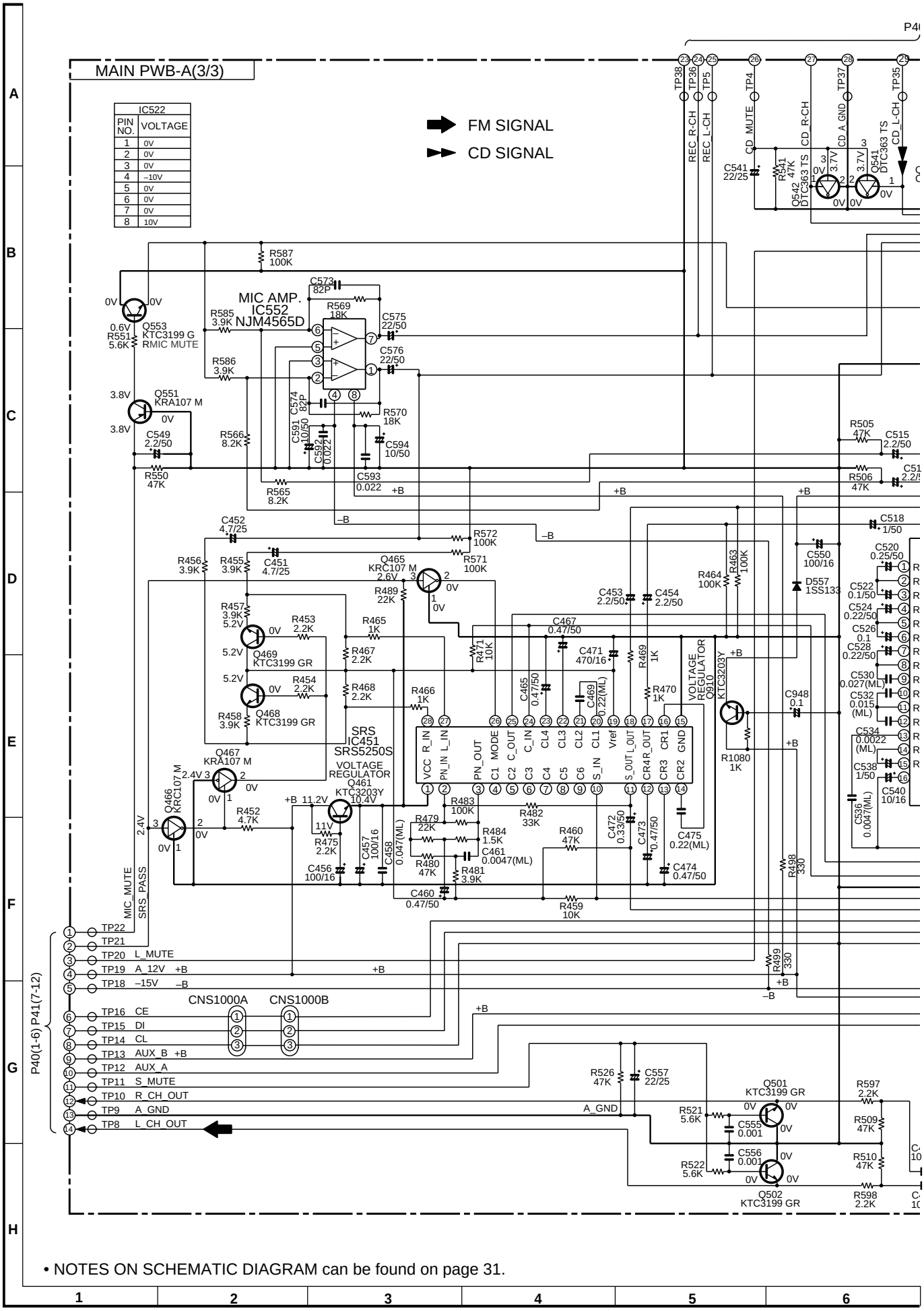
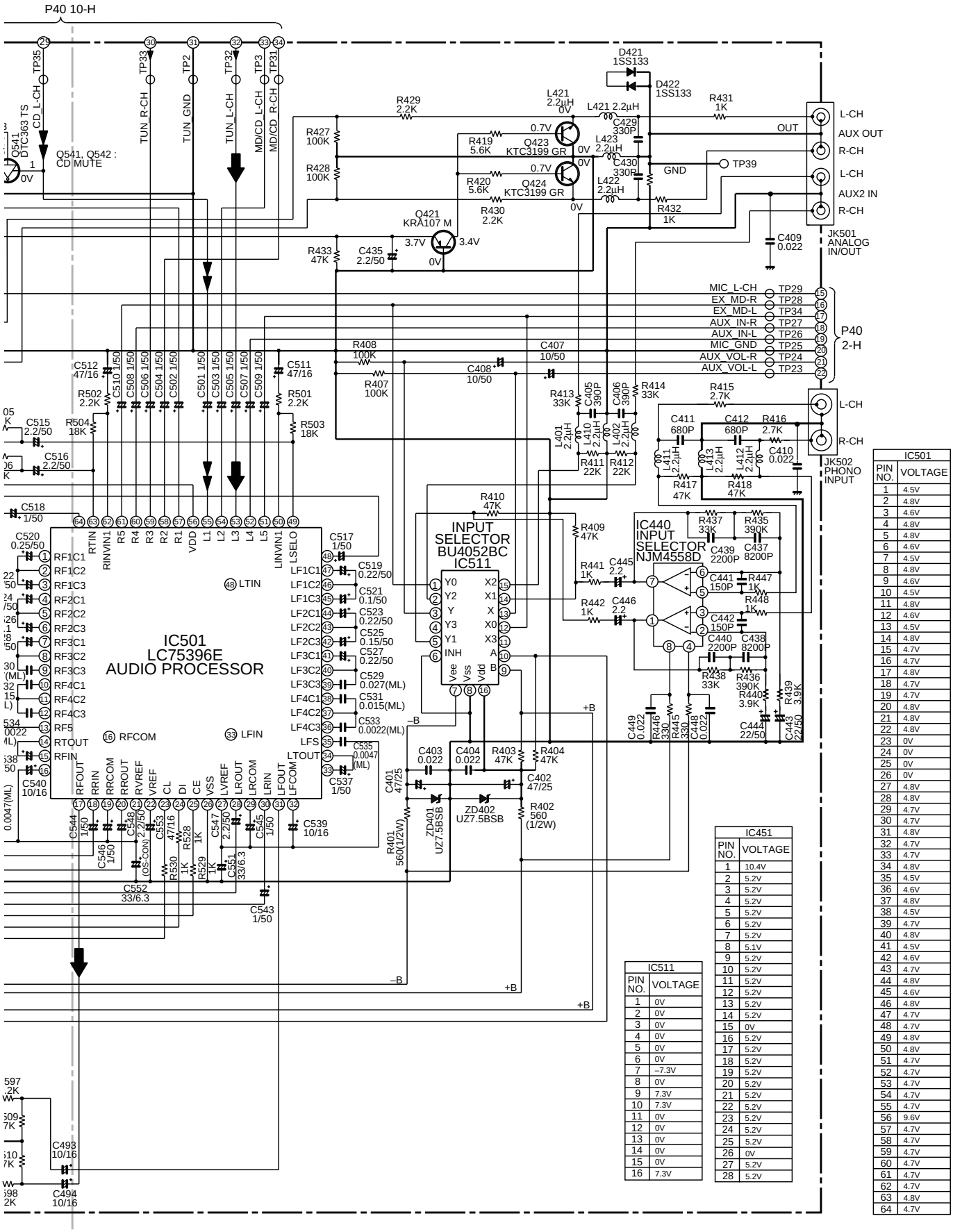


Figure 42 SCHEMATIC DIAGRAM (5/20)



IC501	
PIN NO.	VOLTAGE
1	4.5V
2	4.8V
3	4.6V
4	4.8V
5	4.8V
6	4.6V
7	4.5V
8	4.8V
9	4.6V
10	4.5V
11	4.8V
12	4.6V
13	4.5V
14	4.8V
15	4.7V
16	4.7V
17	4.8V
18	4.7V
19	4.7V
20	4.8V
21	4.8V
22	4.8V
23	0V
24	0V
25	0V
26	0V
27	4.8V
28	4.8V
29	4.7V
30	4.7V
31	4.8V
32	4.7V
33	4.7V
34	4.8V
35	4.5V
36	4.6V
37	4.8V
38	4.5V
39	4.7V
40	4.8V
41	4.5V
42	4.6V
43	4.7V
44	4.8V
45	4.6V
46	4.8V
47	4.7V
48	4.7V
49	4.8V
50	4.8V
51	4.7V
52	4.7V
53	4.7V
54	4.7V
55	4.7V
56	9.6V
57	4.7V
58	4.7V
59	4.7V
60	4.7V
61	4.7V
62	4.7V
63	4.8V
64	4.7V

IC511	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0V
5	0V
6	0V
7	–7.3V
8	0V
9	7.3V
10	7.3V
11	0V
12	0V
13	0V
14	0V
15	0V
16	7.3V

IC451	
PIN NO.	VOLTAGE
1	10.4V
2	5.2V
3	5.2V
4	5.2V
5	5.2V
6	5.2V
7	5.2V
8	5.1V
9	5.2V
10	5.2V
11	5.2V
12	5.2V
13	5.2V
14	5.2V
15	0V
16	5.2V
17	5.2V
18	5.2V
19	5.2V
20	5.2V
21	5.2V
22	5.2V
23	5.2V
24	5.2V
25	5.2V
26	0V
27	5.2V
28	5.2V

7	8	9	10	11	12

Figure 43 SCHEMATIC DIAGRAM (6/20)

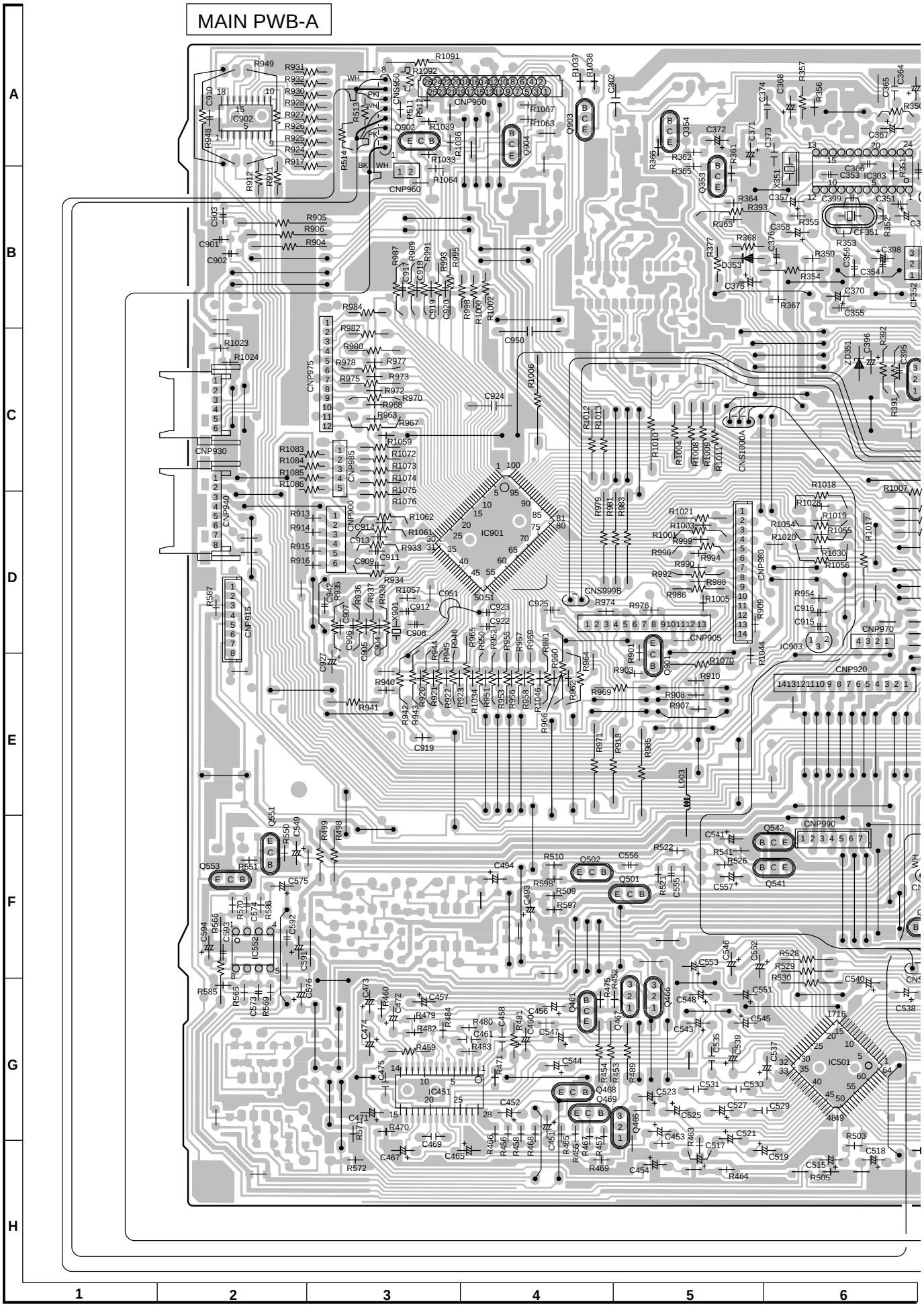
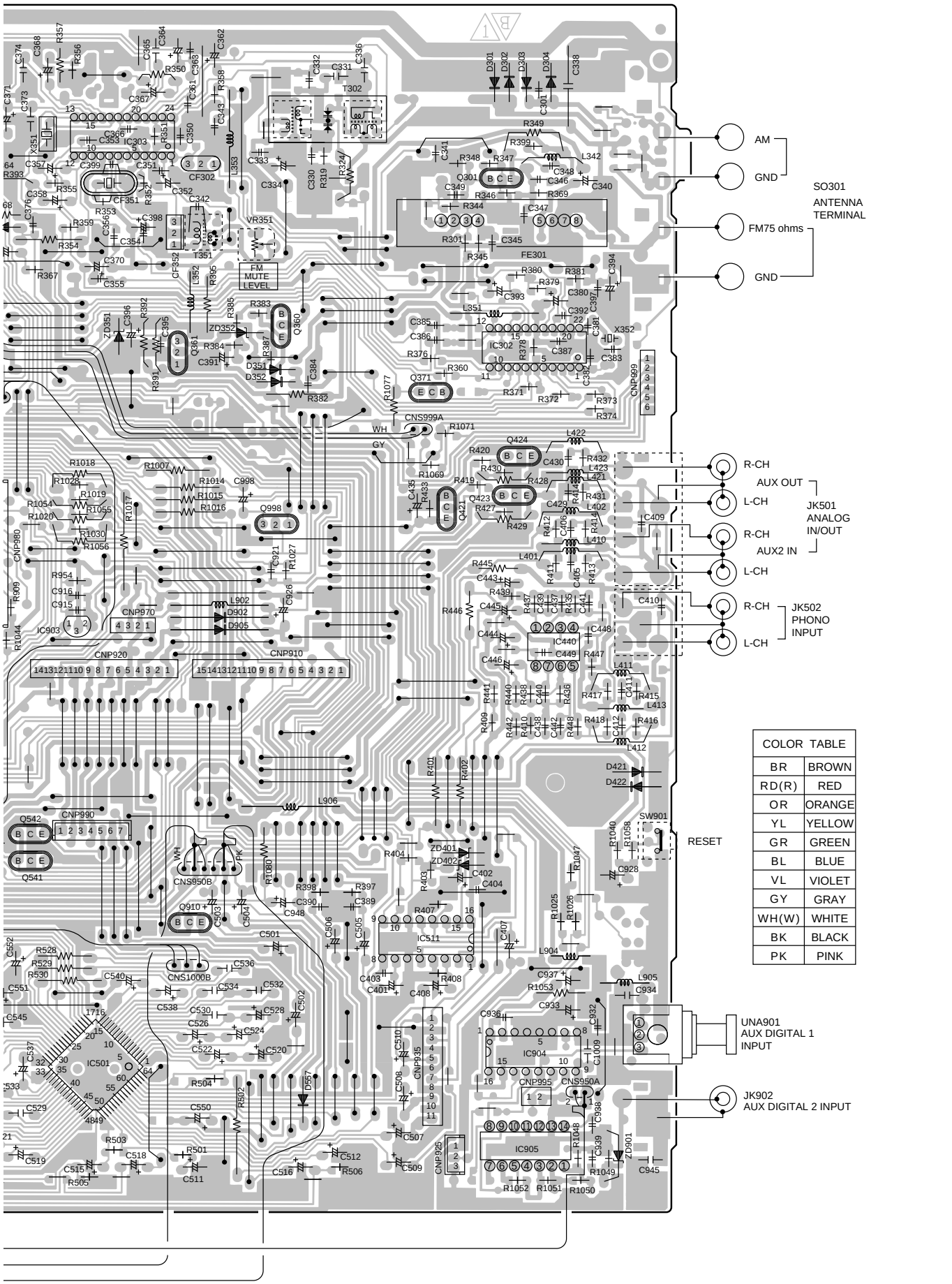


Figure 44 WIRING SIDE OF P.W.BOARD (1/10)

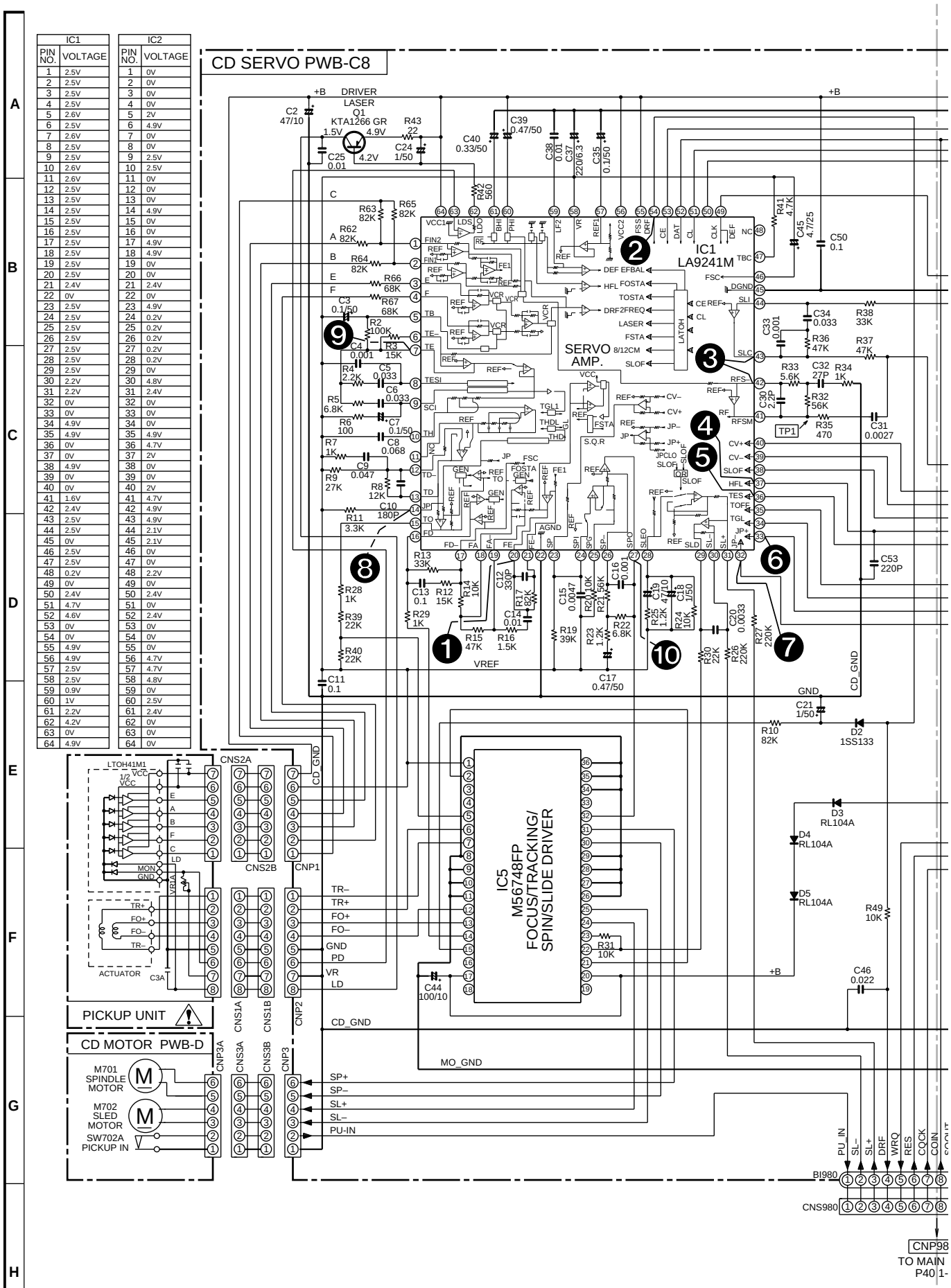


7	8	9	10	11	12

Figure 45 WIRING SIDE OF P.W.BOARD (2/10)

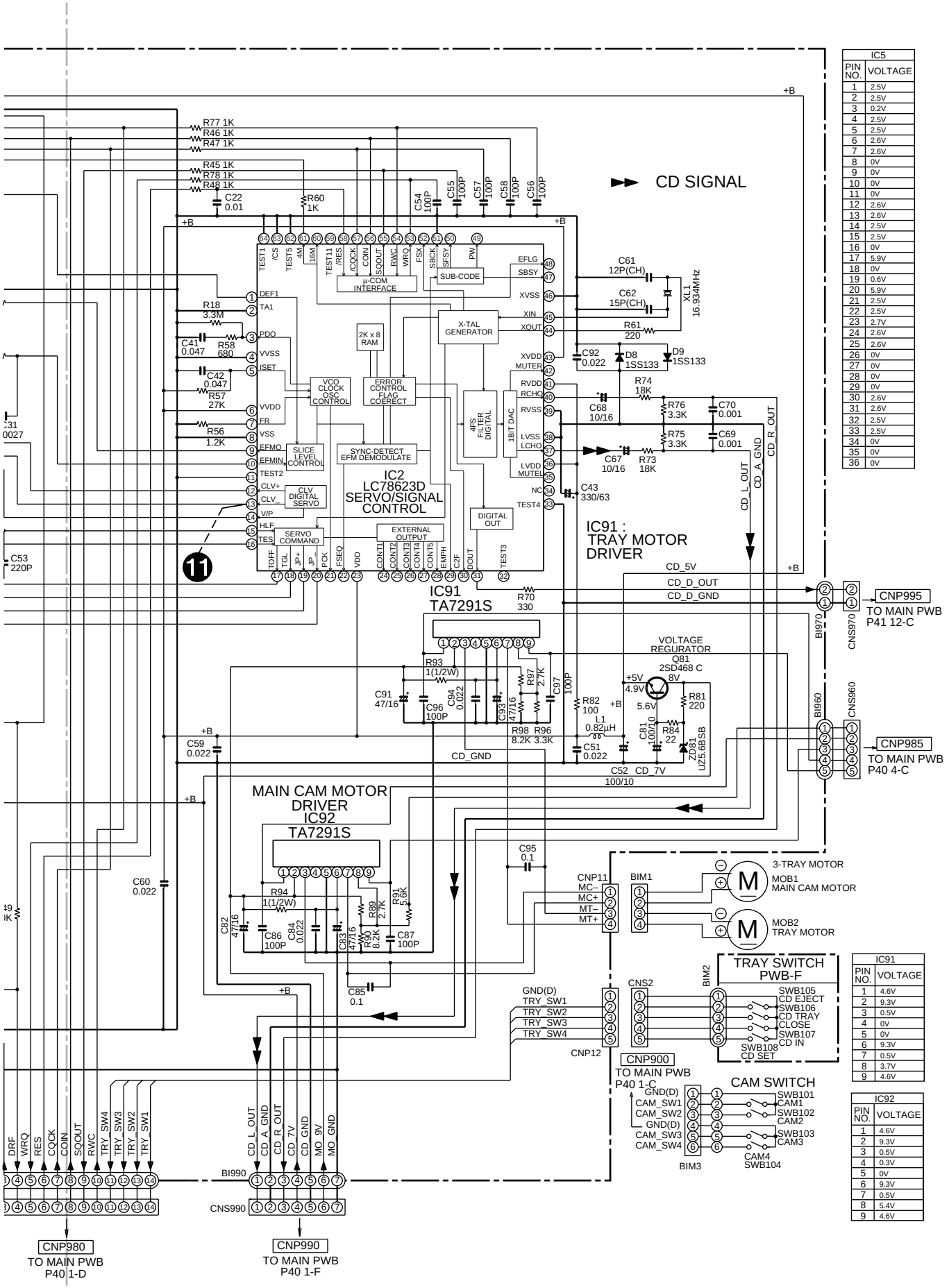
IC1	
PIN NO.	VOLTAGE
1	2.5V
2	2.5V
3	2.5V
4	2.5V
5	2.6V
6	2.5V
7	2.6V
8	2.5V
9	2.5V
10	2.6V
11	2.6V
12	2.5V
13	2.5V
14	2.5V
15	2.5V
16	2.5V
17	2.5V
18	2.5V
19	2.5V
20	2.5V
21	2.4V
22	0V
23	2.5V
24	2.5V
25	2.5V
26	2.5V
27	2.5V
28	2.5V
29	2.5V
30	2.2V
31	2.2V
32	0V
33	0V
34	4.9V
35	4.9V
36	0V
37	0V
38	4.9V
39	0V
40	0V
41	1.6V
42	2.4V
43	2.5V
44	2.5V
45	0V
46	2.5V
47	2.5V
48	0.2V
49	0V
50	2.4V
51	4.7V
52	4.6V
53	0V
54	0V
55	4.9V
56	4.9V
57	2.5V
58	2.5V
59	0.9V
60	1V
61	2.2V
62	4.2V
63	0V
64	4.9V

IC2	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0V
5	2V
6	4.9V
7	0V
8	0V
9	2.5V
10	2.5V
11	0V
12	0V
13	0V
14	4.9V
15	0V
16	0V
17	4.9V
18	4.9V
19	0V
20	0V
21	2.4V
22	0V
23	4.9V
24	0.2V
25	0.2V
26	0.2V
27	0.2V
28	0.2V
29	0V
30	4.8V
31	2.4V
32	0V
33	0V
34	0V
35	4.9V
36	4.7V
37	2V
38	0V
39	0V
40	2V
41	4.7V
42	4.9V
43	4.9V
44	2.1V
45	2.1V
46	0V
47	0V
48	2.2V
49	0V
50	2.4V
51	0V
52	2.4V
53	0V
54	0V
55	0V
56	4.7V
57	4.7V
58	4.8V
59	0V
60	2.5V
61	2.4V
62	0V
63	0V
64	0V



• NOTES ON SCHEMATIC DIAGRAM can be found on page 31.

Figure 46 SCHEMATIC DIAGRAM (7/20)



• The numbers ❶ to ⓫ are waveform numbers shown in page 69.

7	8	9	10	11	12

Figure 47 SCHEMATIC DIAGRAM (8/20)

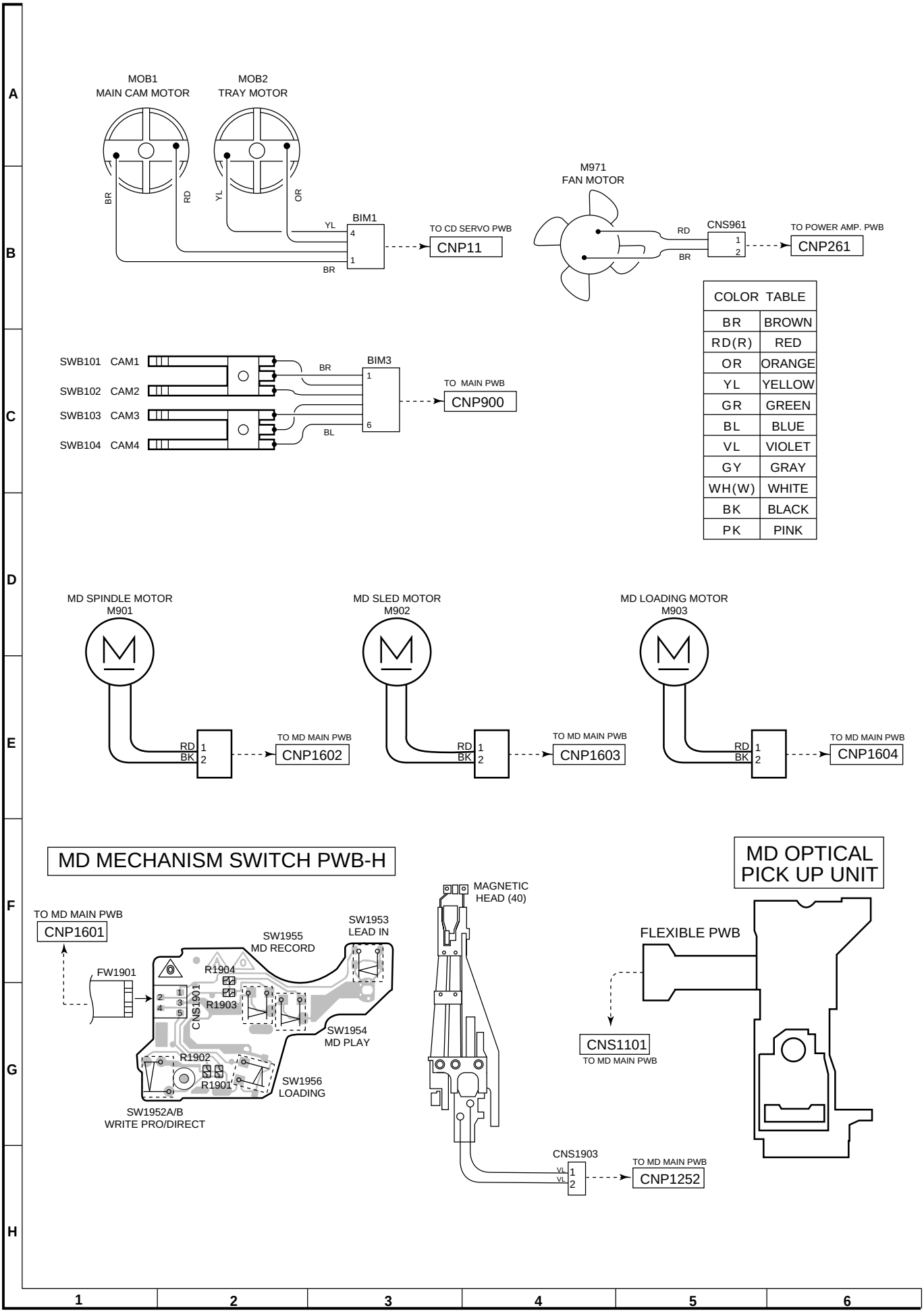
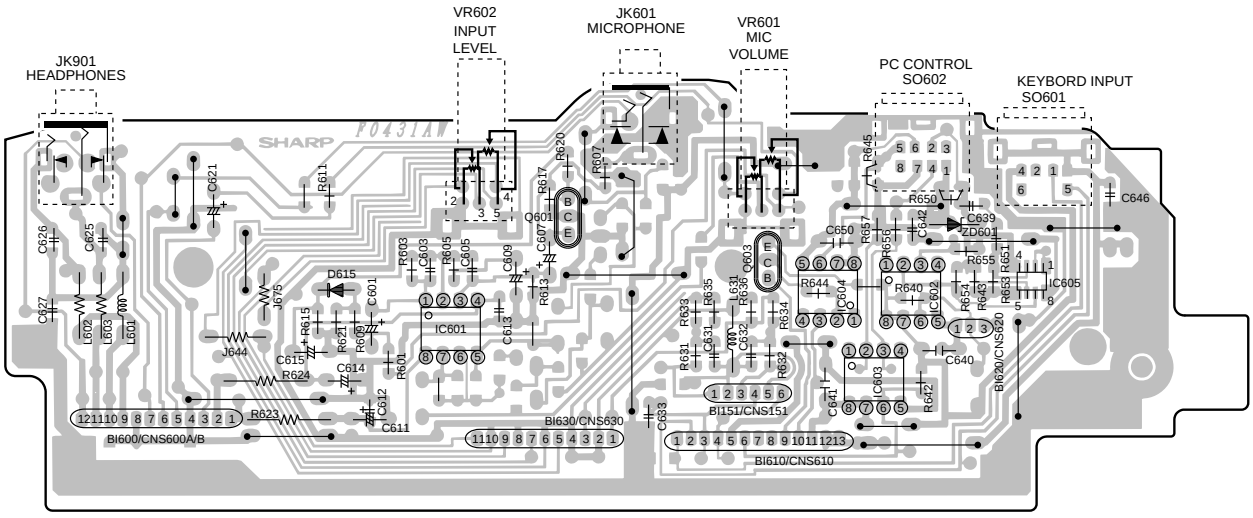
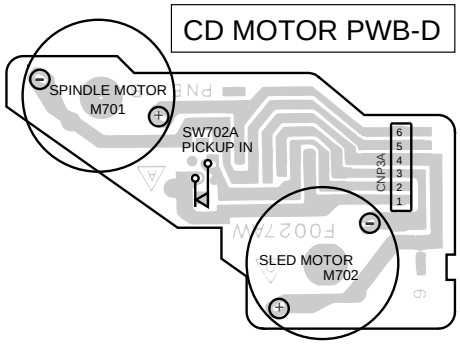


Figure 48 WIRING SIDE OF P.W.BOARD (3/10)

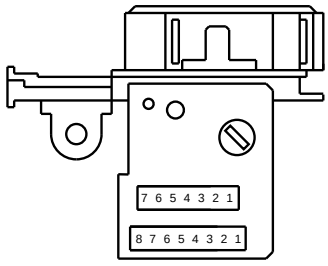


MIC PWB-C7

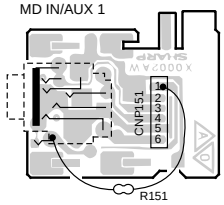
CD MOTOR PWB-D



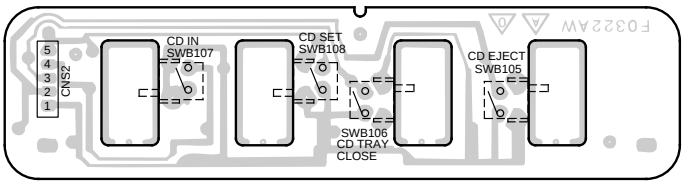
PICK UP UNIT



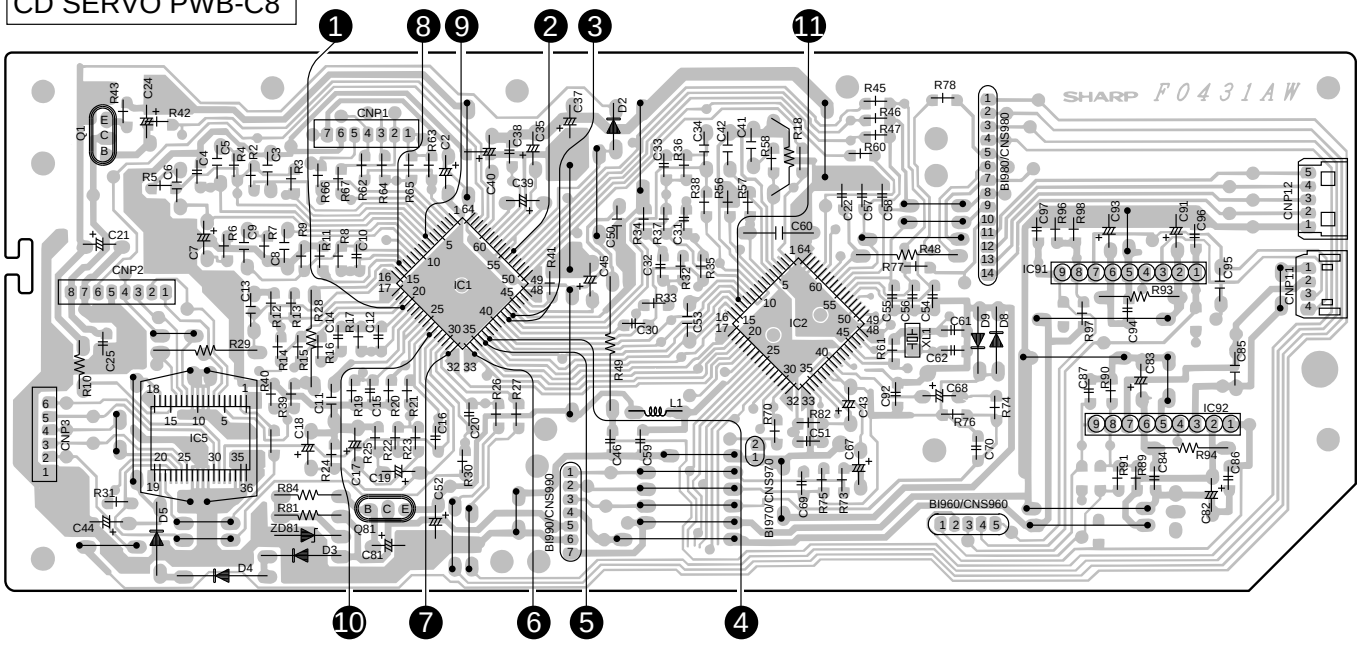
JACK PWB-E



TRAY SWITCH PWB-F



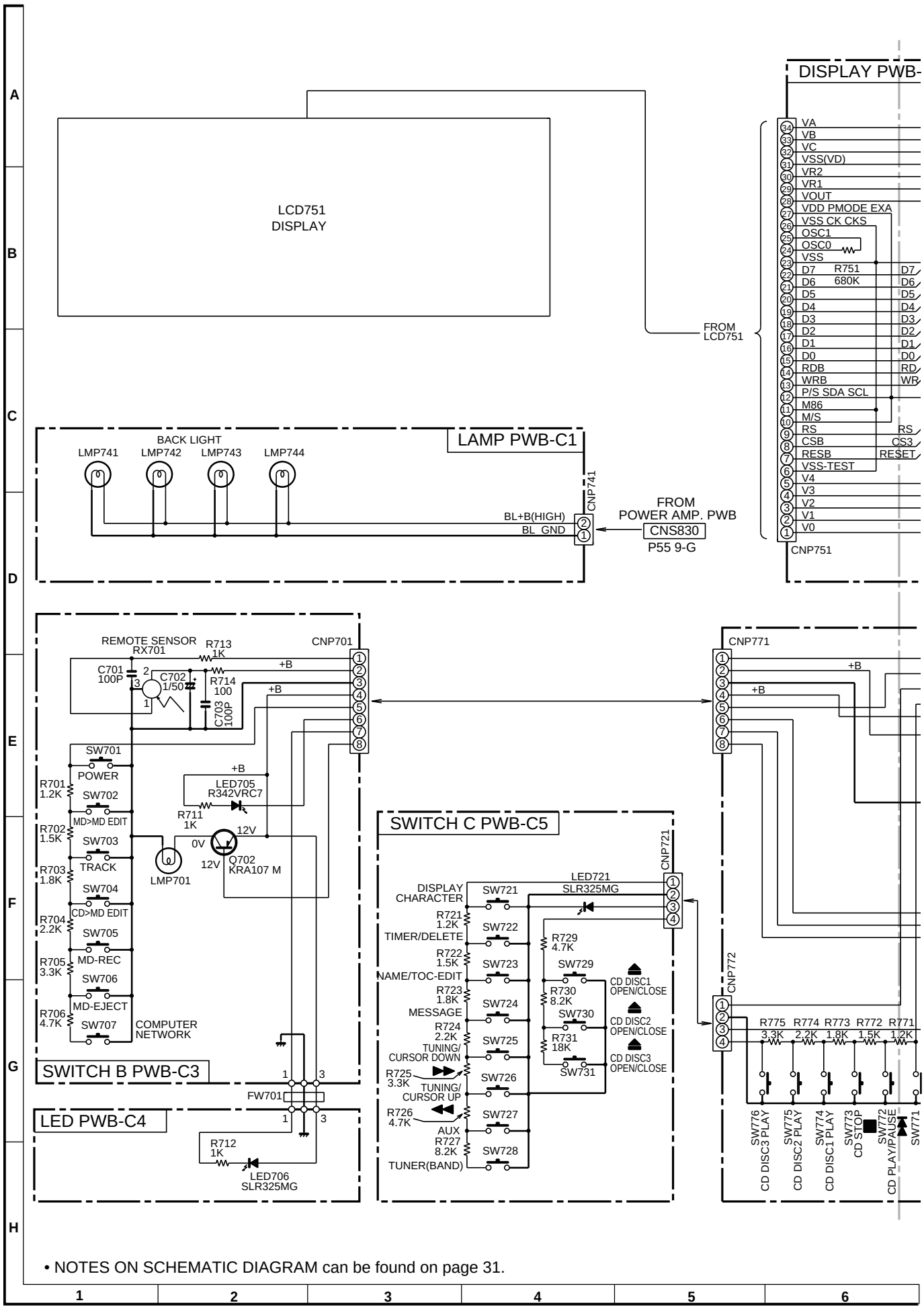
CD SERVO PWB-C8



• The numbers ❶ to ⓫ are waveform numbers shown in page 69.

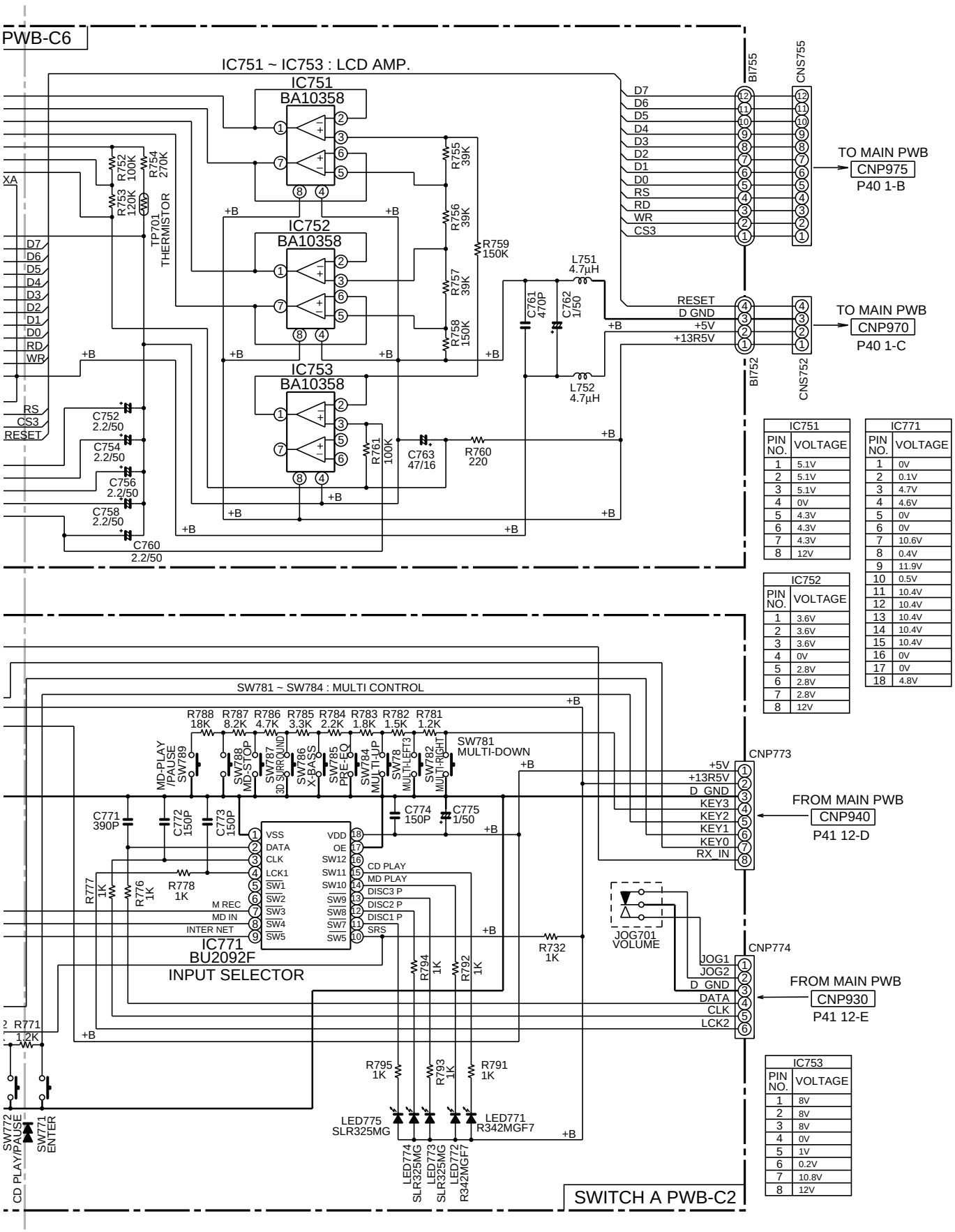
7	8	9	10	11	12

Figure 49 WIRING SIDE OF P.W.BOARD (4/10)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 31.

Figure 50 SCHEMATIC DIAGRAM (9/20)



7	8	9	10	11	12

Figure 51 SCHEMATIC DIAGRAM (10/20)

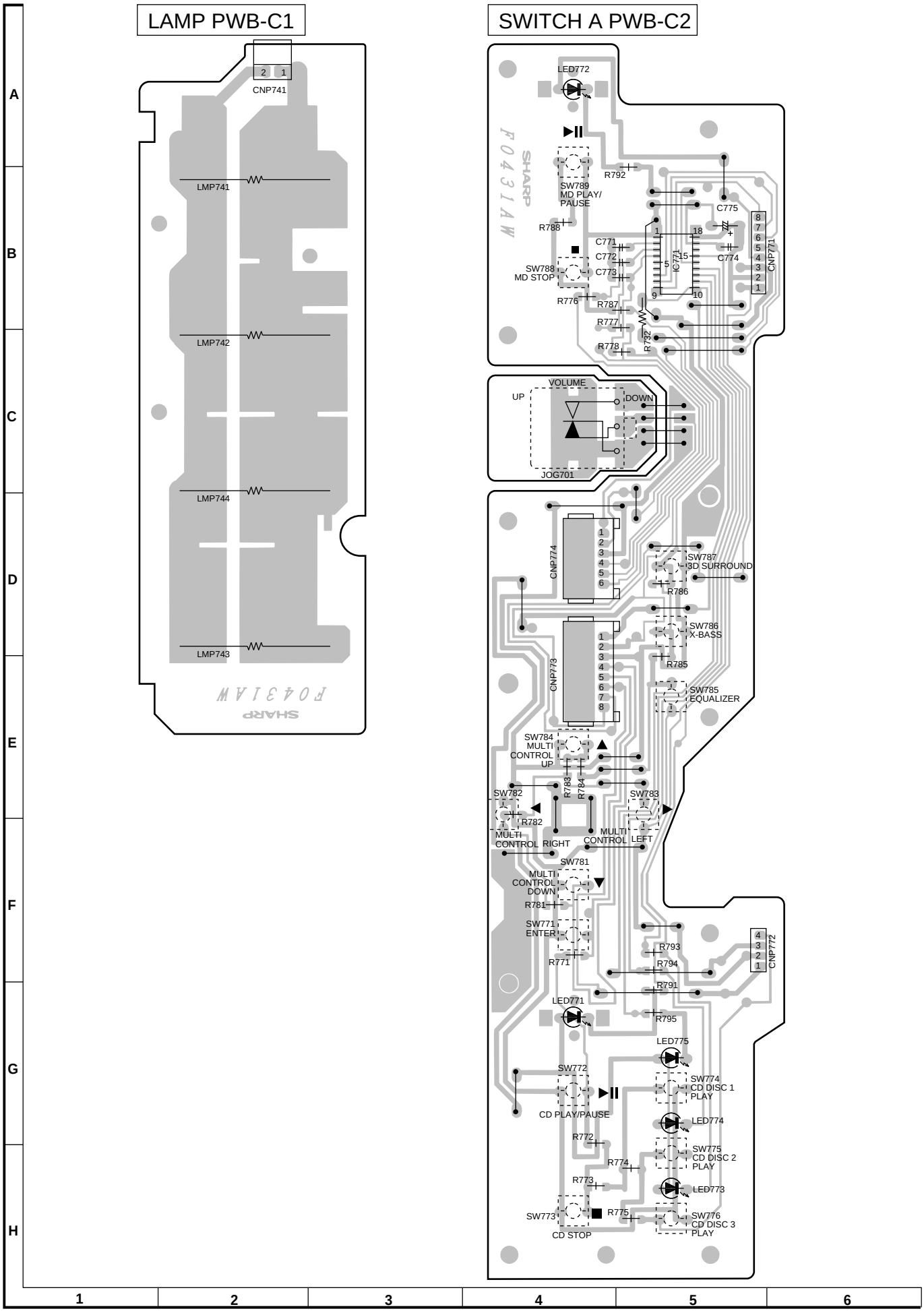
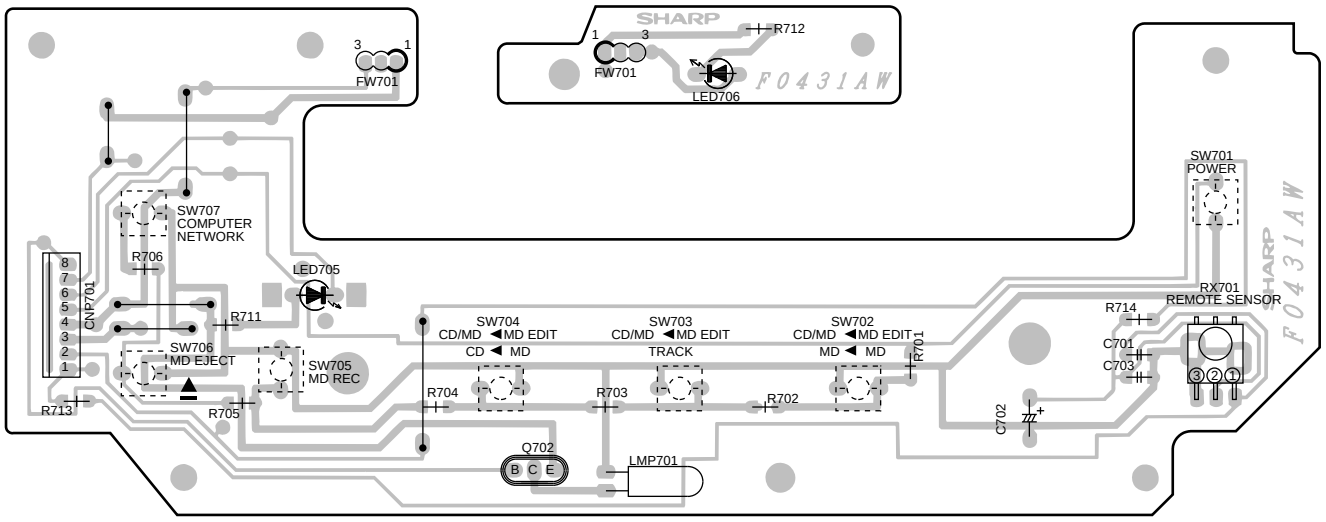


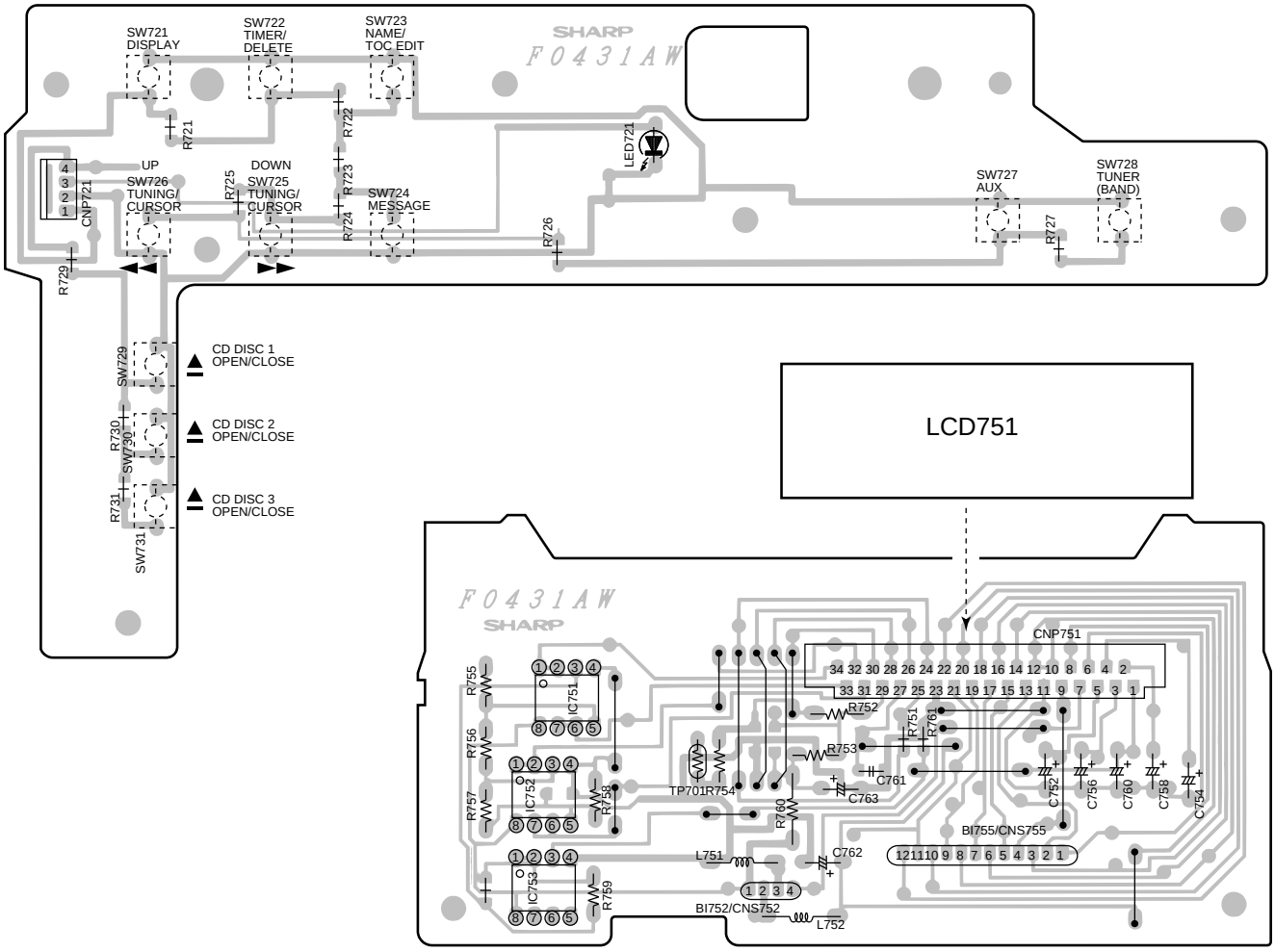
Figure 52 WIRING SIDE OF P.W.BOARD (5/10)

SWITCH B PWB-C3

LED PWB-C4



SWITCH C PWB-C5

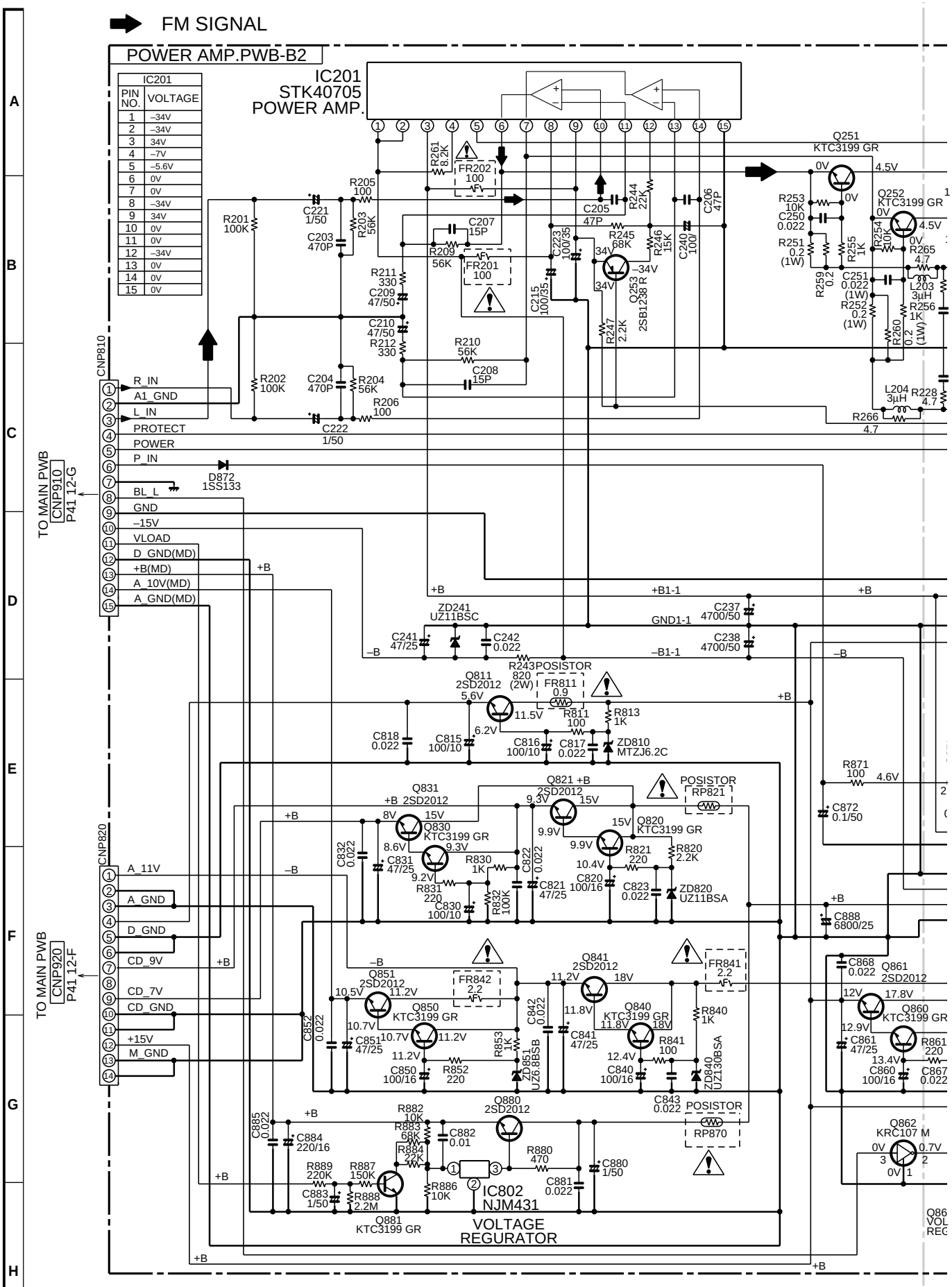


LCD751

DISPLAY PWB-C6

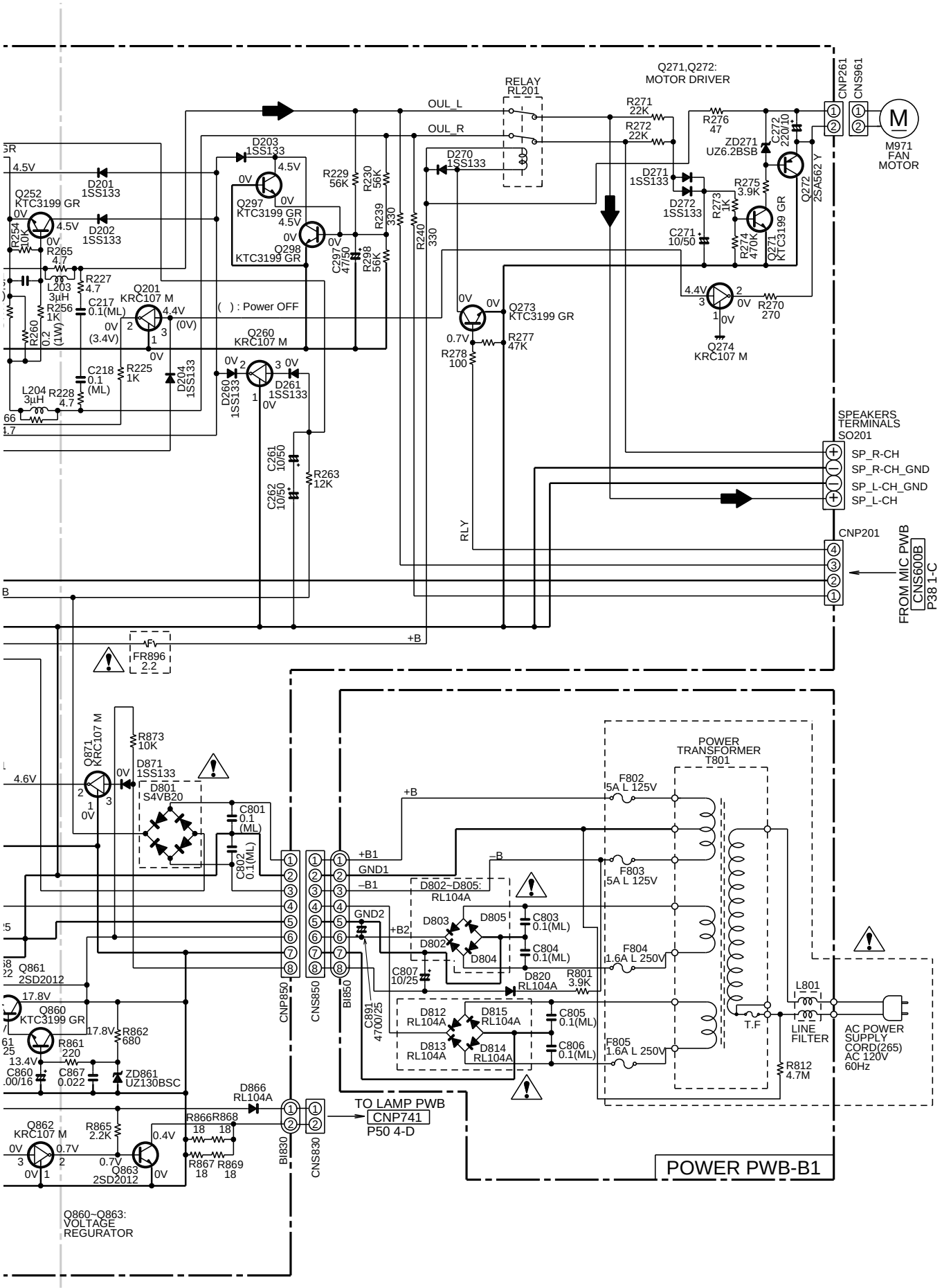
7	8	9	10	11	12

Figure 53 WIRING SIDE OF P.W.BOARD (6/10)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 31.

Figure 54 SCHEMATIC DIAGRAM (11/20)



7	8	9	10	11	12

Figure 55 SCHEMATIC DIAGRAM (12/20)

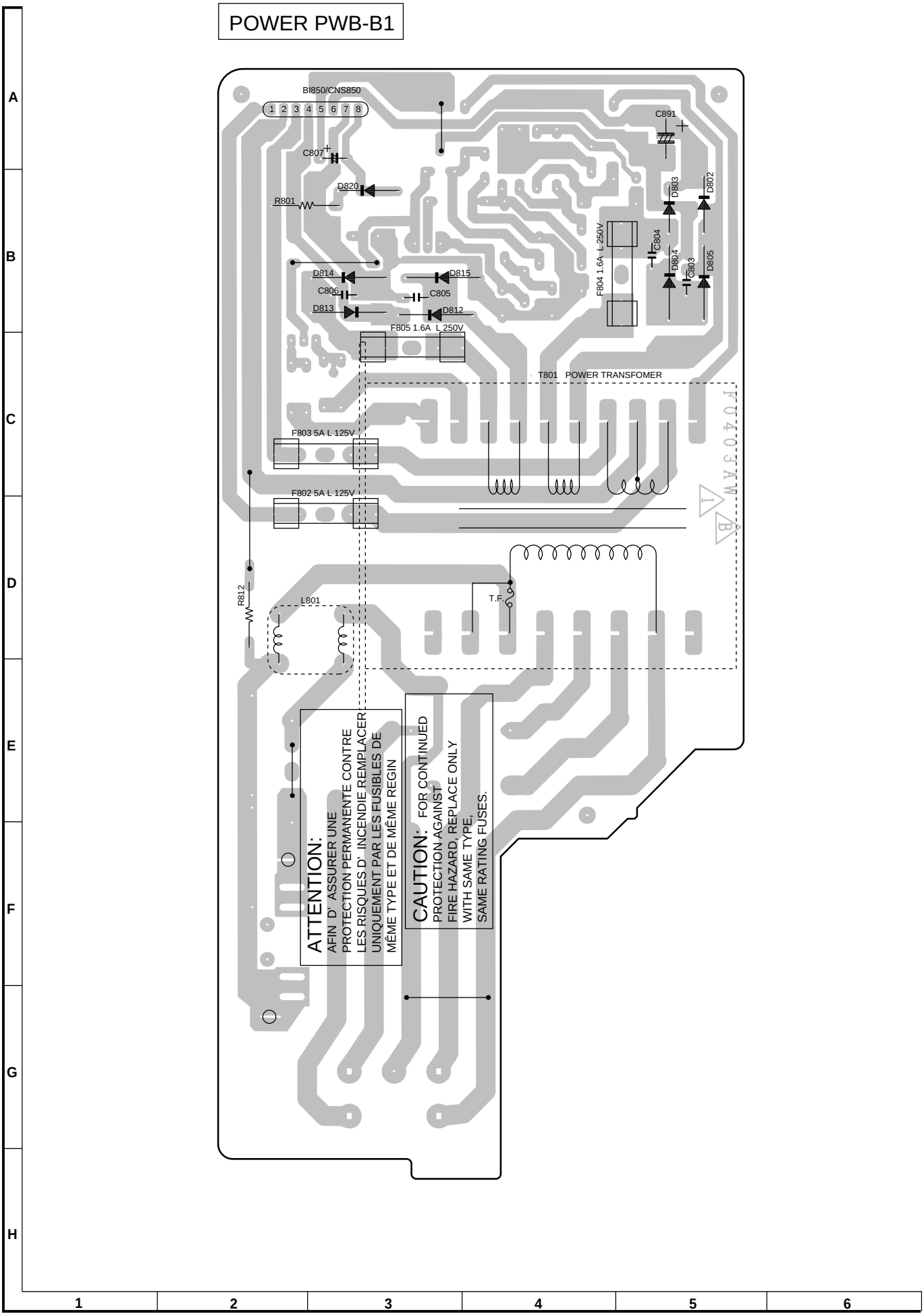
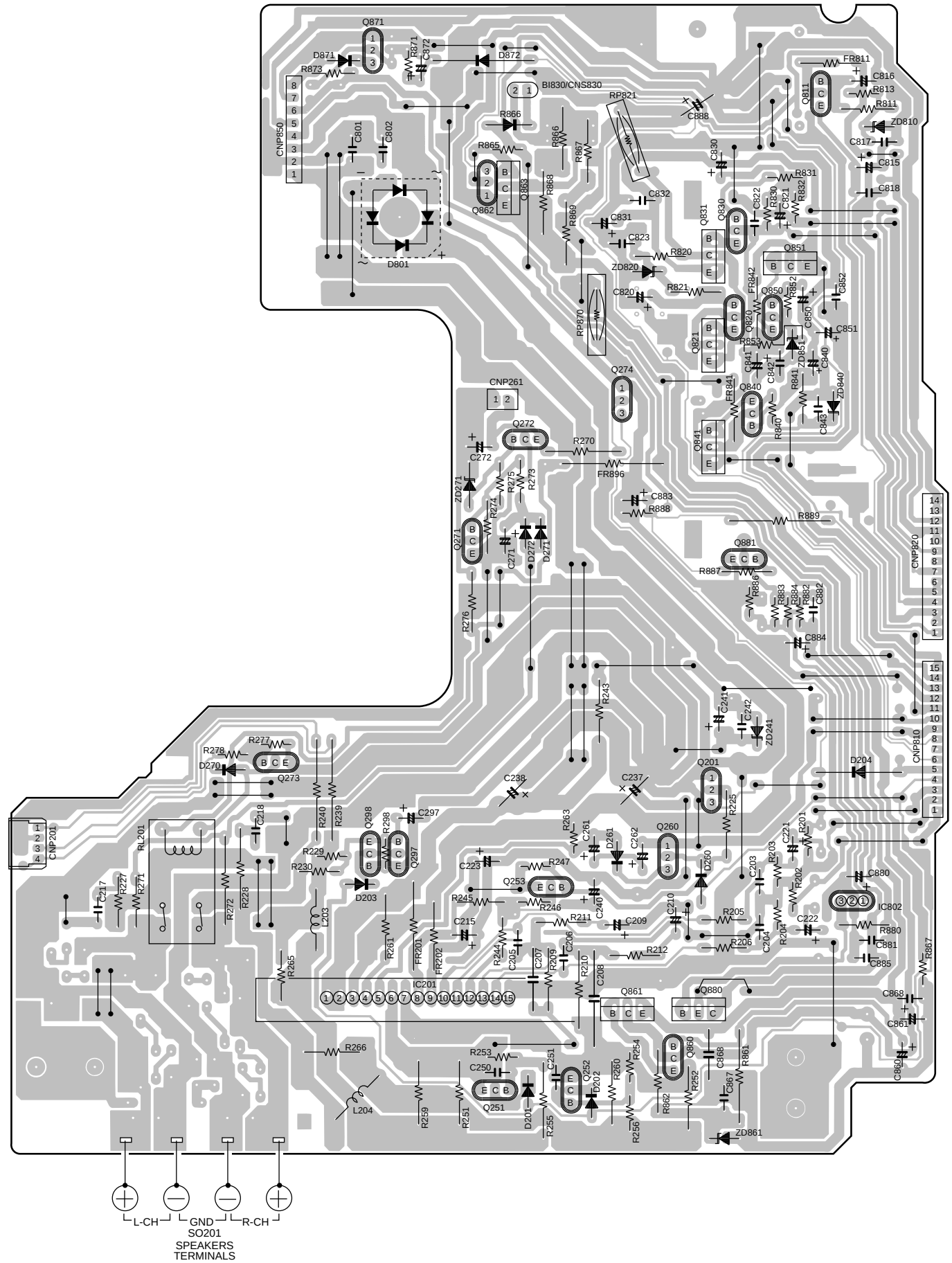


Figure 56 WIRING SIDE OF P.W.BOARD (7/10)

POWER AMP. PWB-B2



7	8	9	10	11	12

Figure 57 WIRING SIDE OF P.W.BOARD (8/10)

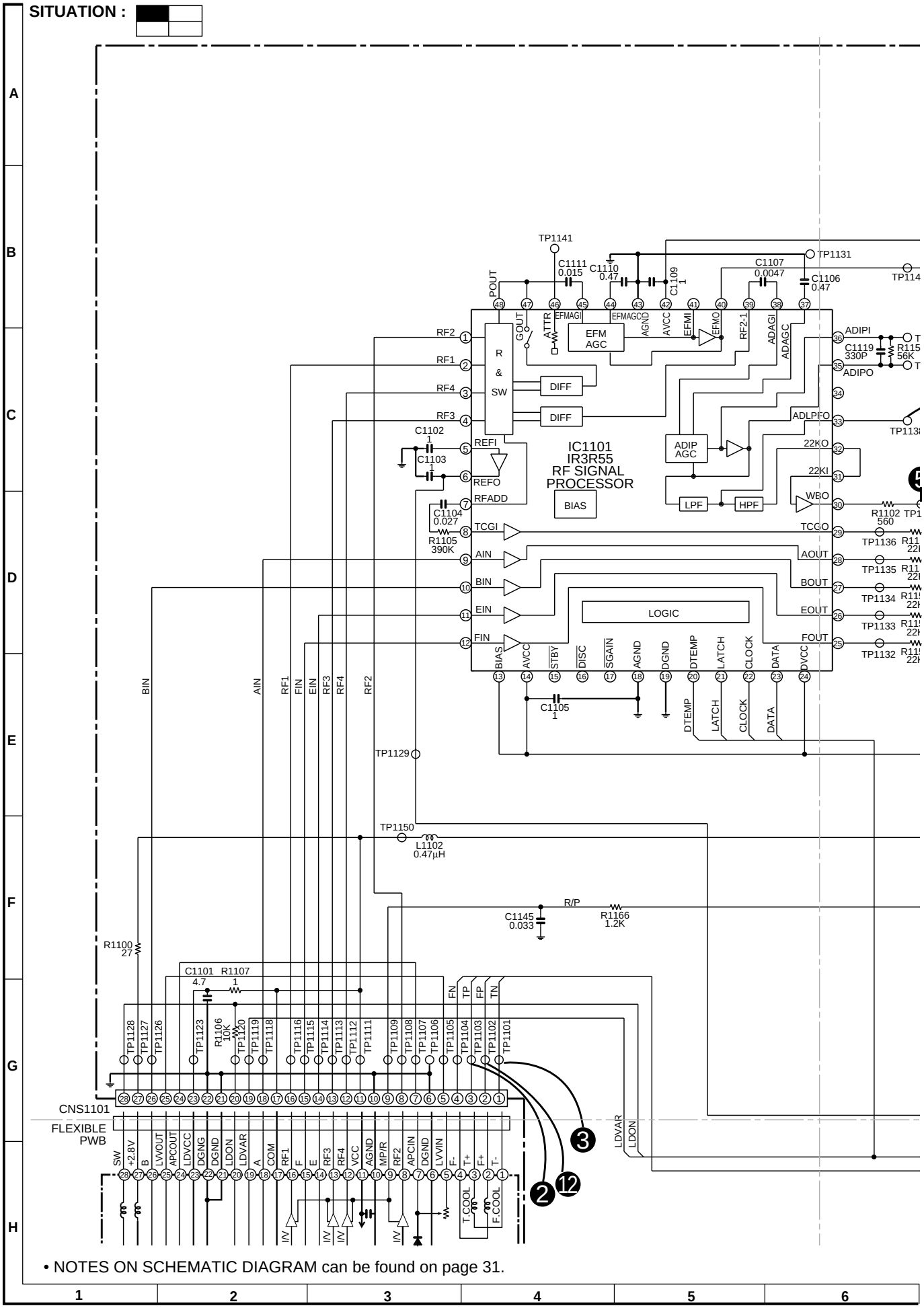
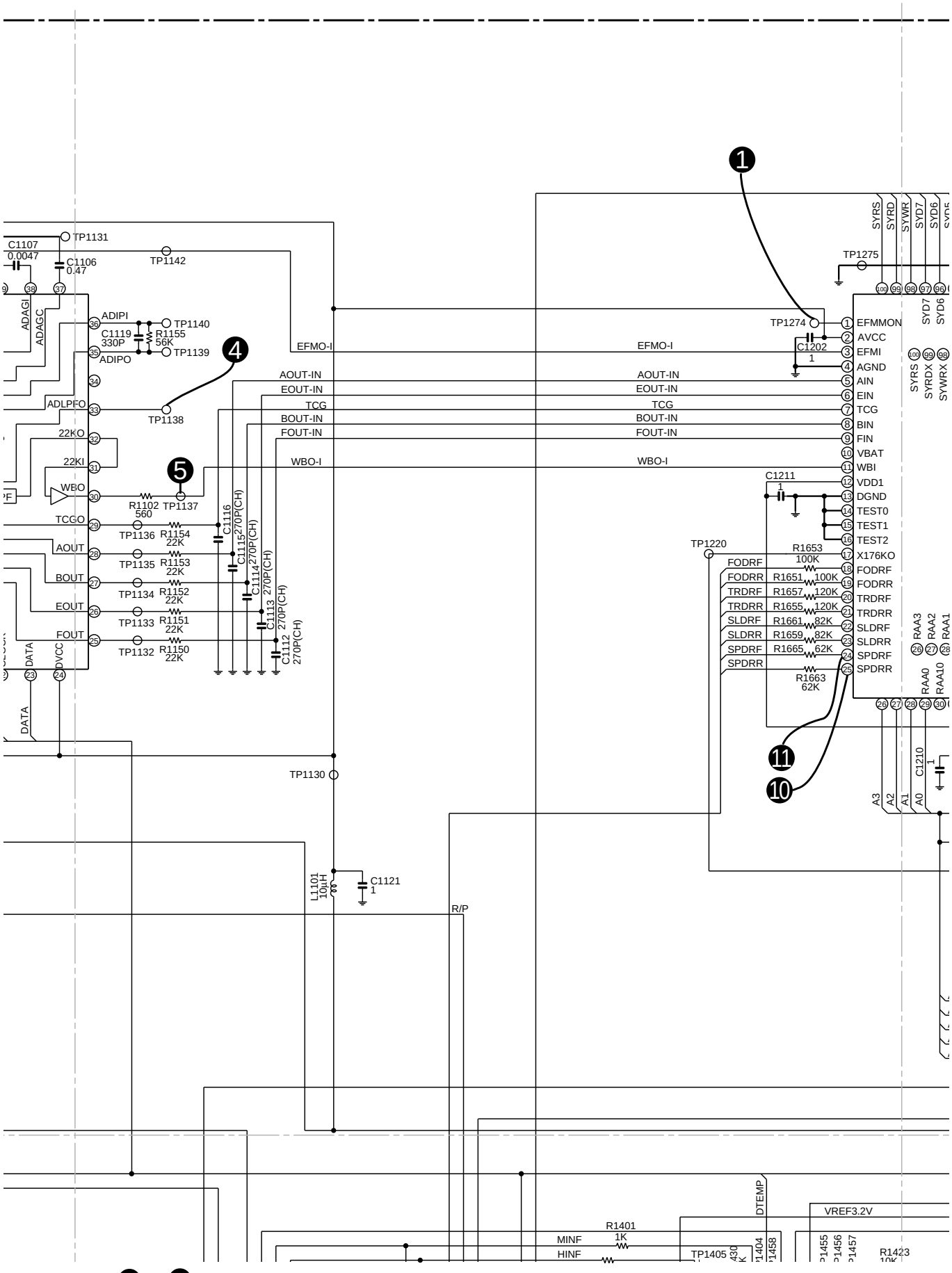


Figure 58 SCHEMATIC DIAGRAM (13/20)



• The numbers 1 to 24 are waveform numbers shown in page 70 and 71.

7	8	9	10	11	12

Figure 59 SCHEMATIC DIAGRAM (14/20)

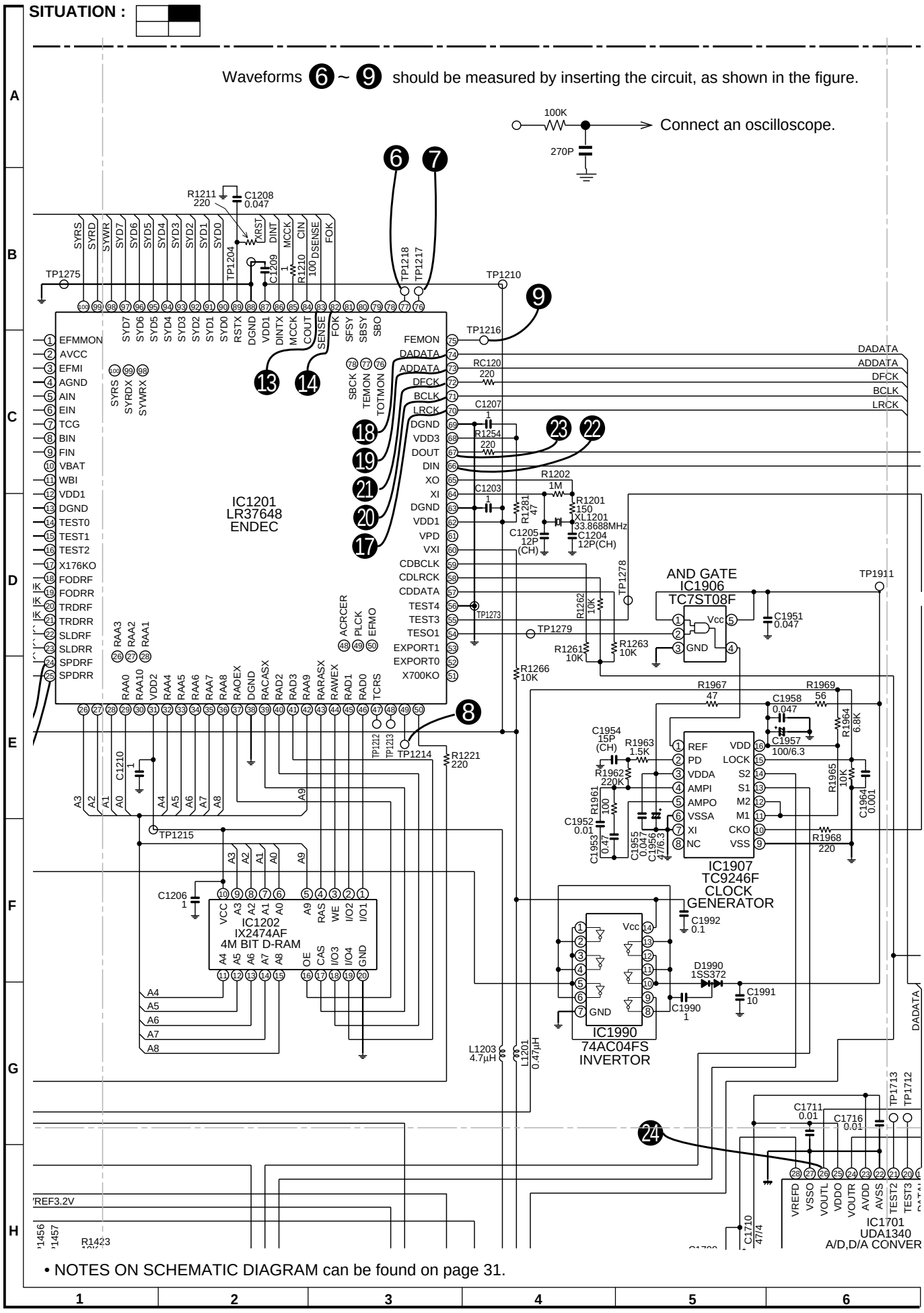
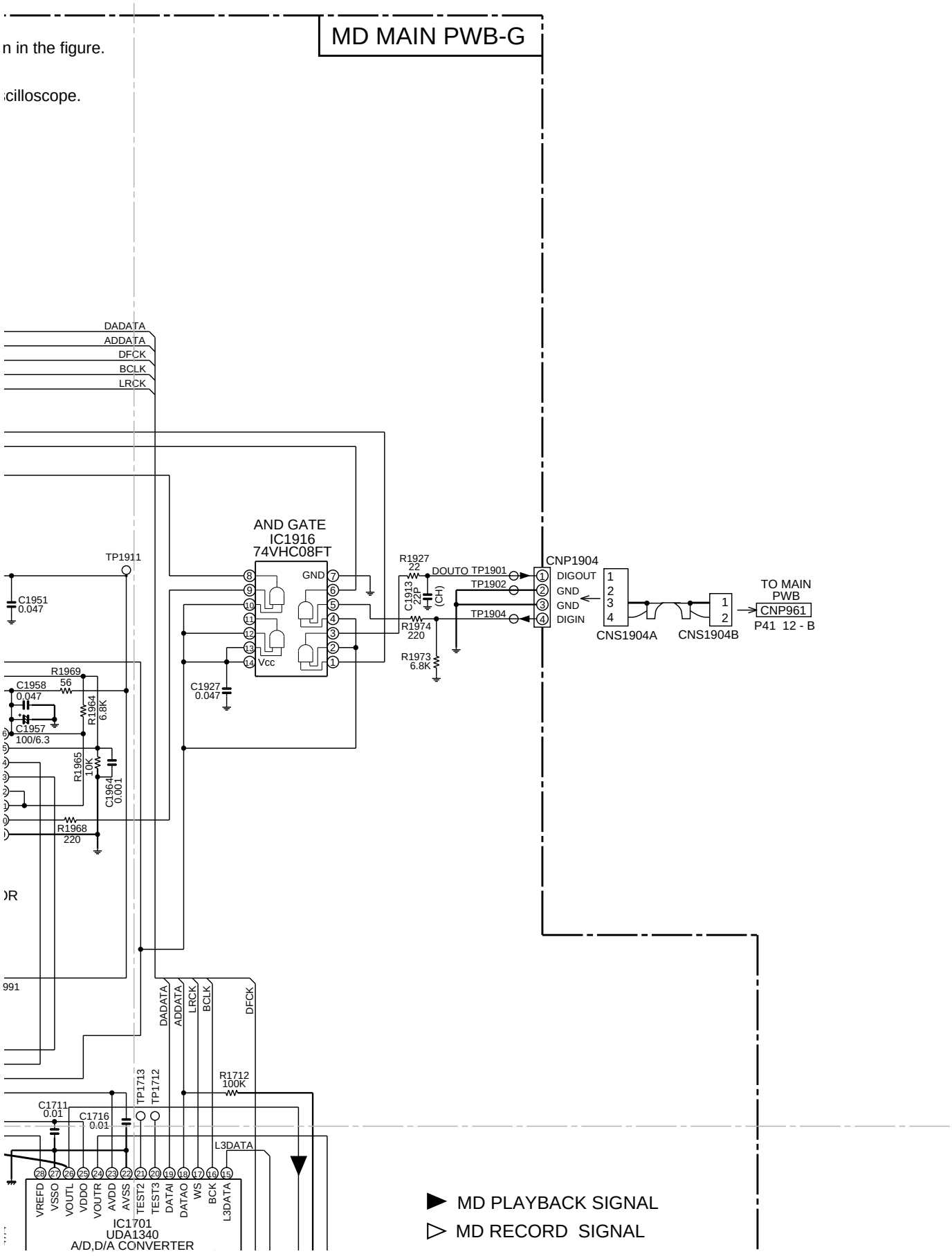


Figure 60 SCHEMATIC DIAGRAM (15/20)

n in the figure.

cilloscope.



• The numbers 1 to 24 are waveform numbers shown in page 70 and 71.

7	8	9	10	11	12

Figure 61 SCHEMATIC DIAGRAM (16/20)

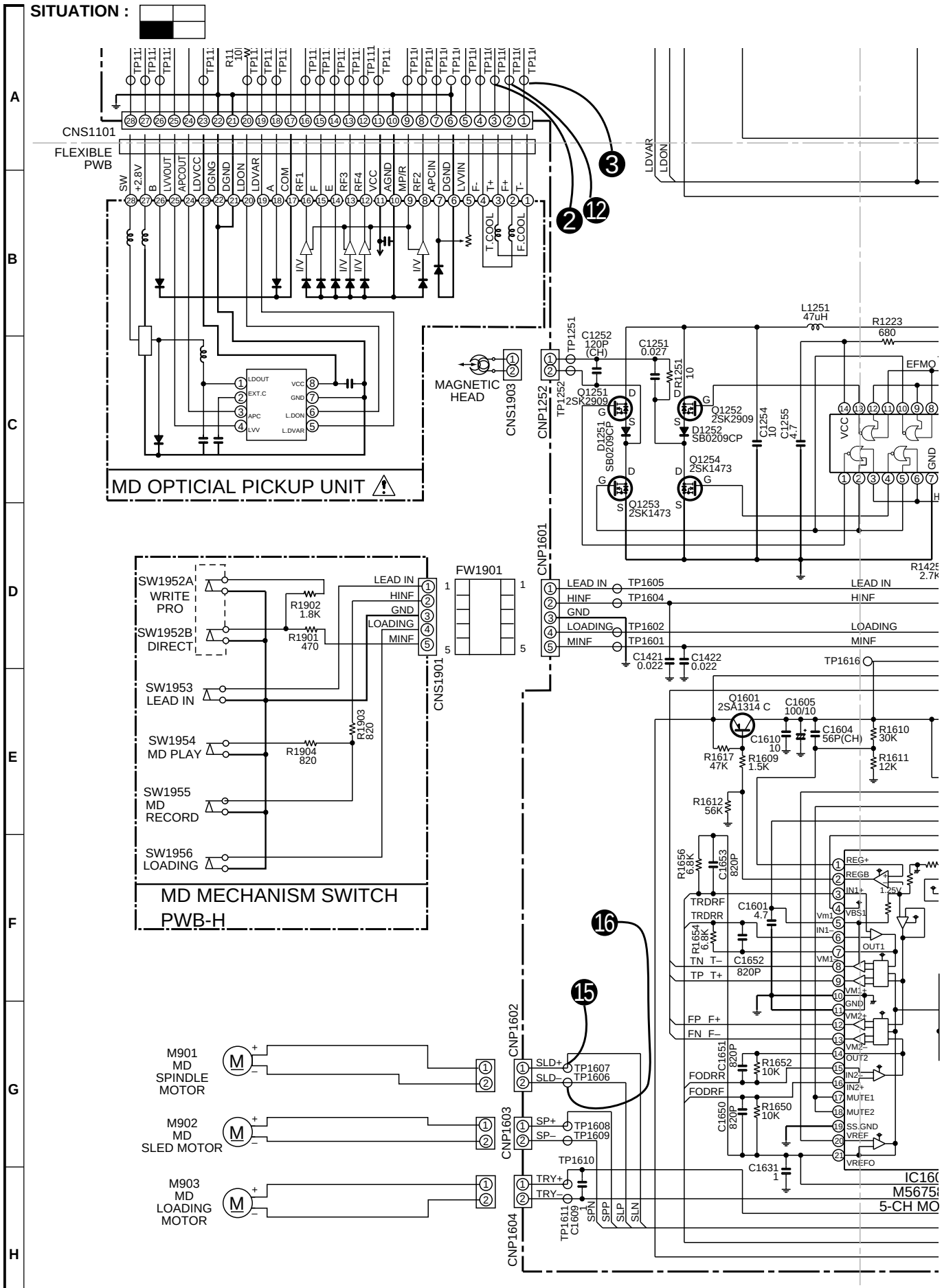
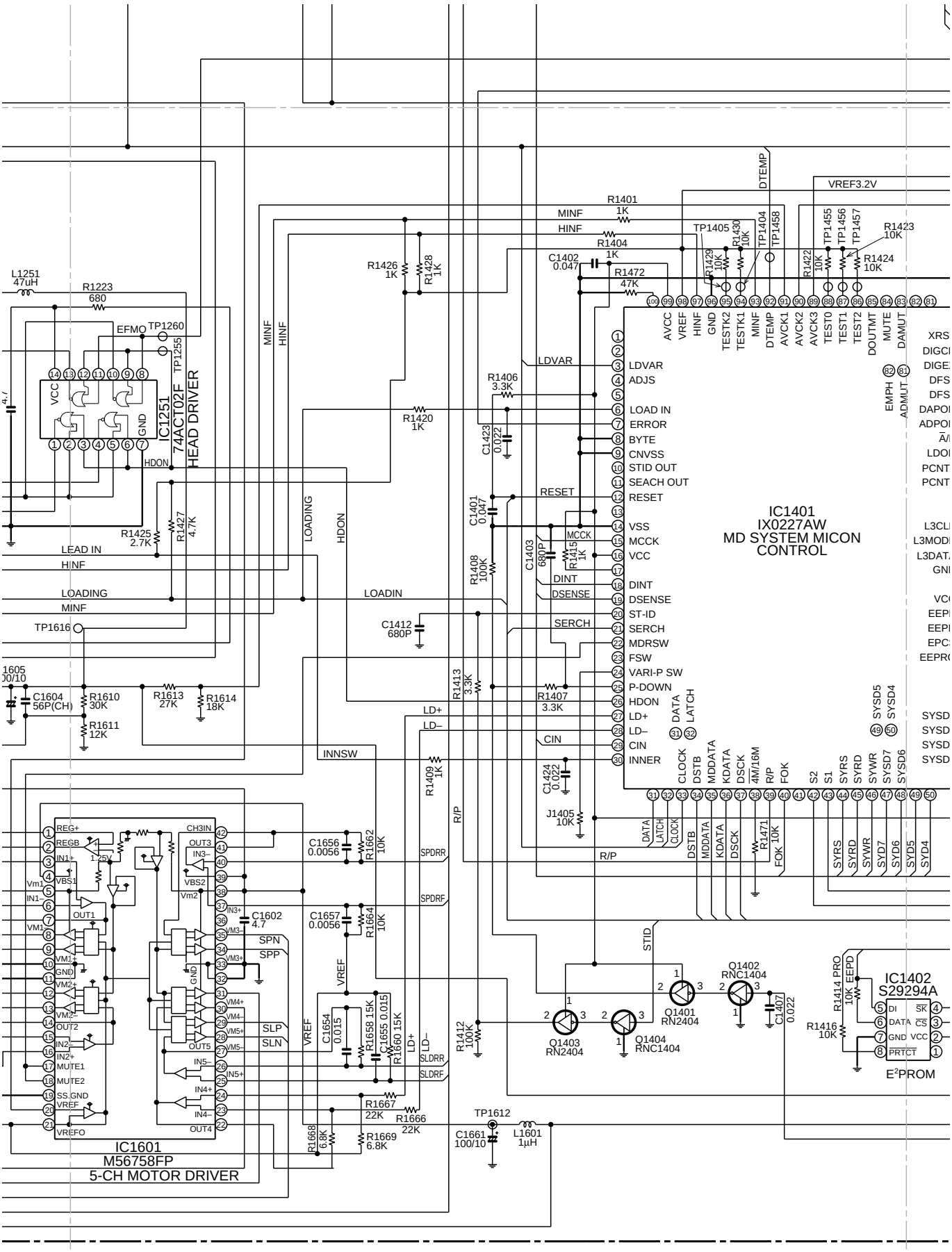


Figure 62 SCHEMATIC DIAGRAM (17/20)



• The numbers ❶ to ㉔ are waveform numbers shown in page 70 and 71.

7	8	9	10	11	12

Figure 63 SCHEMATIC DIAGRAM (18/20)

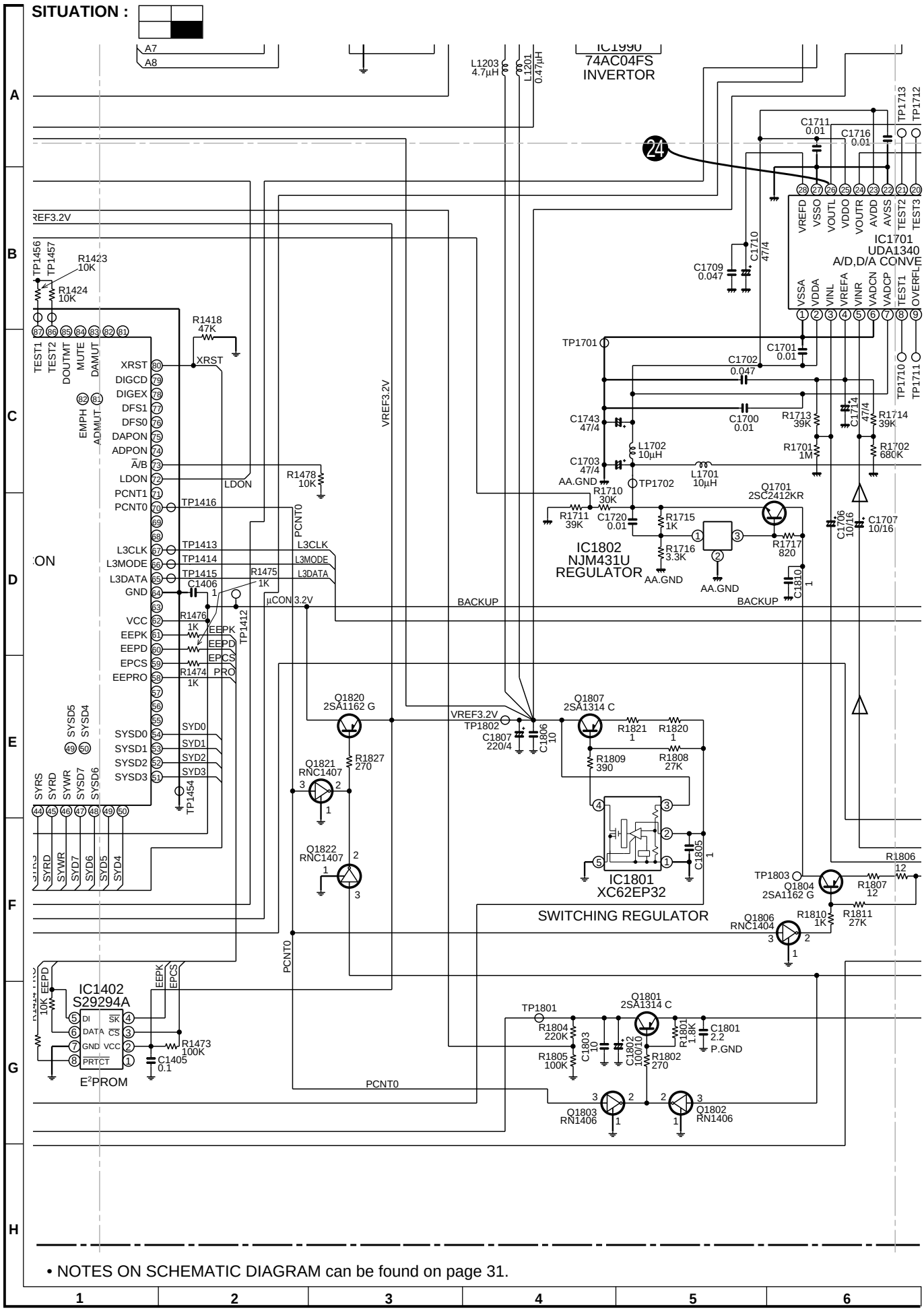
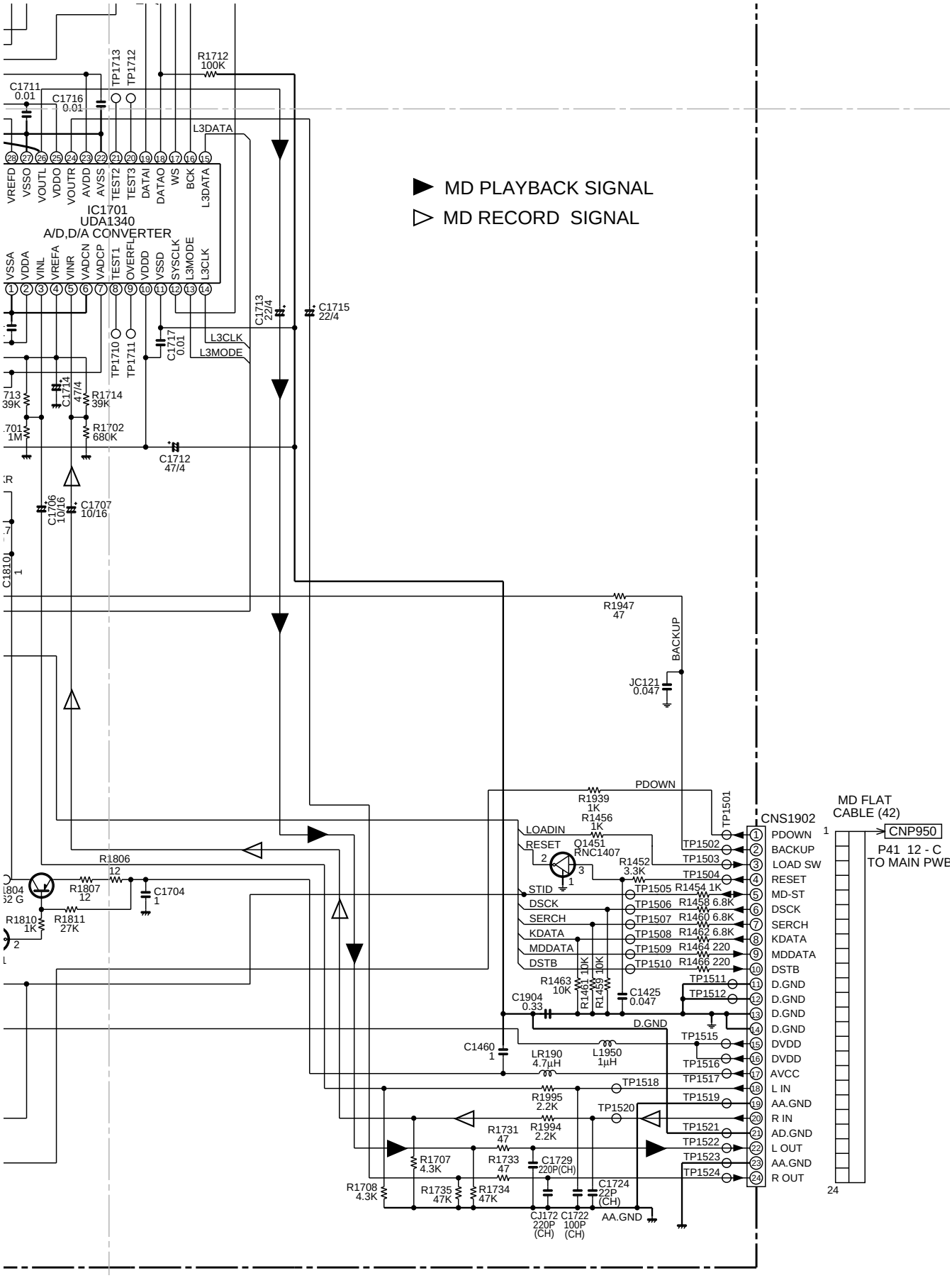


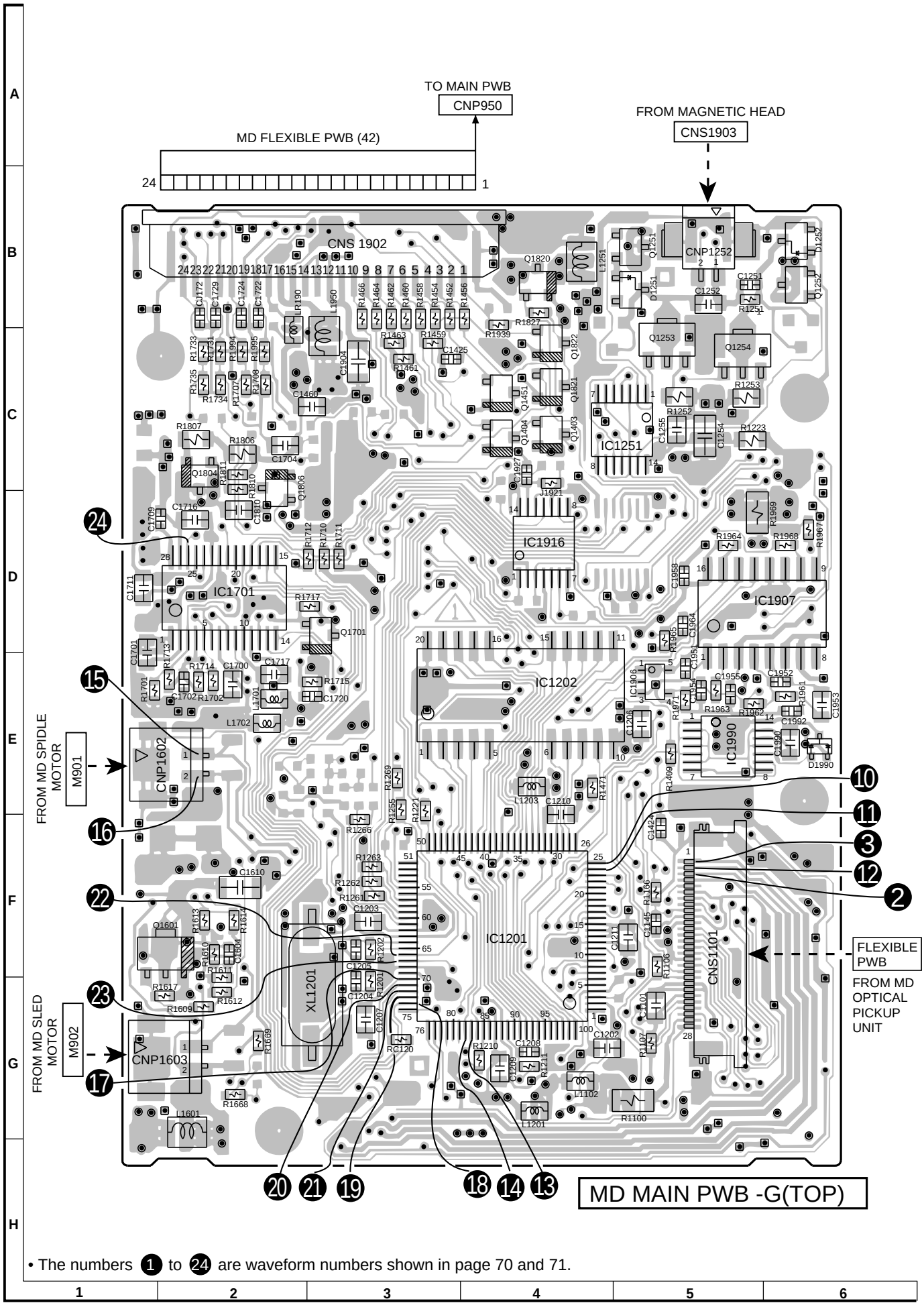
Figure 64 SCHEMATIC DIAGRAM (19/20)



• The numbers ❶ to ㉔ are waveform numbers shown in page 70 and 71.

7	8	9	10	11	12

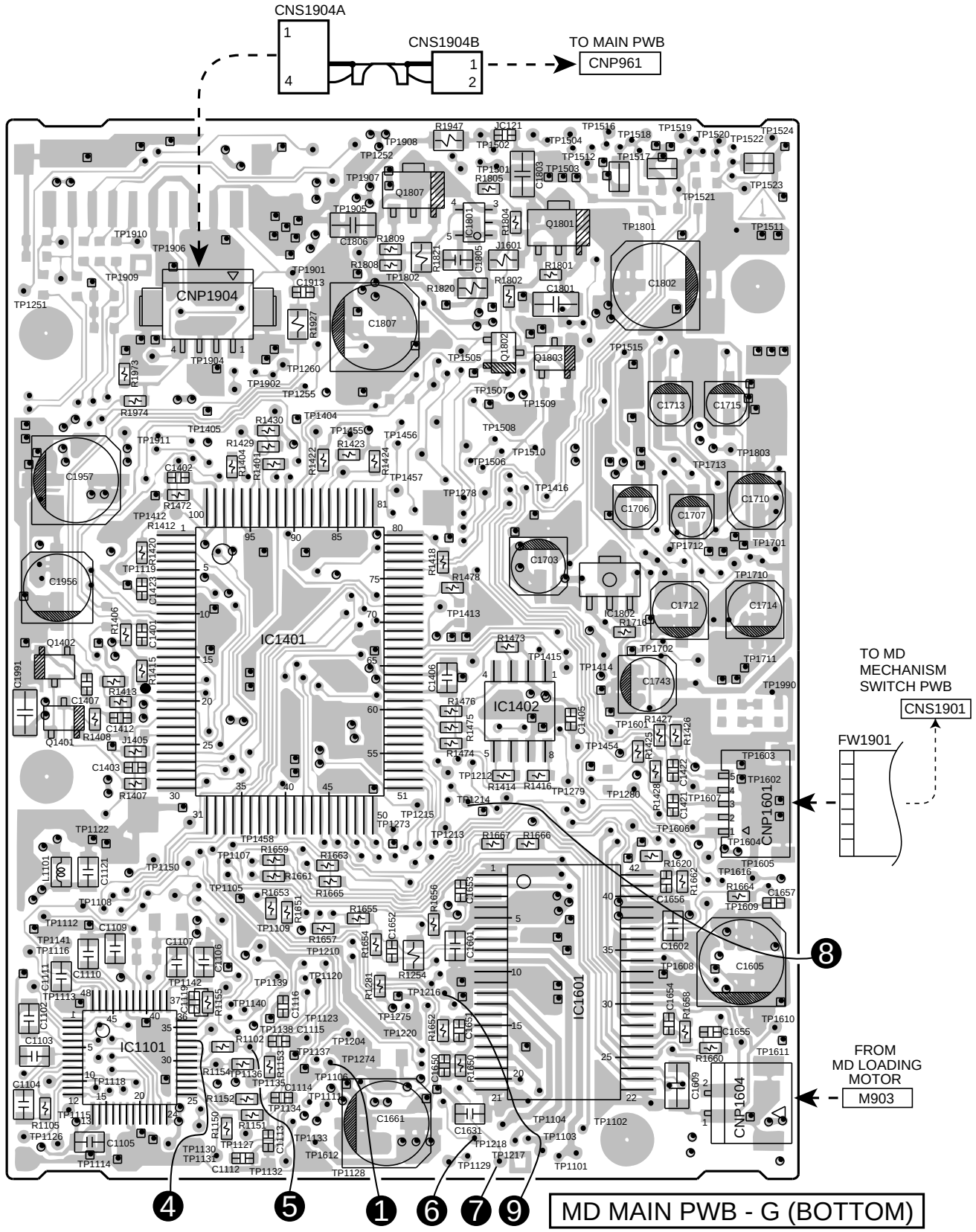
Figure 65 SCHEMATIC DIAGRAM (20/20)



• The numbers ❶ to ㉔ are waveform numbers shown in page 70 and 71.

Figure 66 WIRING SIDE OF P.W.BOARD (9/10)

⊙ Through-hole where the top, bottom and +B patterns are connected.
⊡ Through-hole where the top, bottom and ground patterns are connected.
• Through-hole where the top, and bottom patterns are connected.



7	8	9	10	11	12

Figure 67 WIRING SIDE OF P.W.BOARD (10/10)

VOLTAGE (MD MAIN PWB)

Q1801	
PIN NO.	VOLTAGE
E	5V
C	5V
B	43V

Q1802	
PIN NO.	VOLTAGE
E	0V
C	0V
B	0.15V

Q1803	
PIN NO.	VOLTAGE
E	0V
C	0V
B	3.1V

Q1807	
PIN NO.	VOLTAGE
E	3.95V
C	3.2V
B	3.3V

Q1820	
PIN NO.	VOLTAGE
E	3.2V
C	3.18V
B	2.4V

Q1821	
PIN NO.	VOLTAGE
E	0V
C	0V
B	3.08V

Q1822	
PIN NO.	VOLTAGE
E	0V
C	0V
B	0.1V

Q1451	
PIN NO.	VOLTAGE
E	0V
C	3.18V
B	0.1V

Q1401	
PIN NO.	VOLTAGE
E	3.2V
C	3.2V
B	0V

Q1402	
PIN NO.	VOLTAGE
E	0V
C	0V
B	2.3V

Q1403	
PIN NO.	VOLTAGE
E	3.18V
C	0V
B	3.15V

Q1404	
PIN NO.	VOLTAGE
E	0V
C	3.15V
B	2.1V

Q1601	
PIN NO.	VOLTAGE
E	5.45V
C	4.4V
B	4.8V

IC1801	
PIN NO.	VOLTAGE
1	0V
2	44V
3	3.2V
4	3.1V
5	0V

IC1901	
PIN NO.	VOLTAGE
1	5.5V
2	1.6V
3	0V
4	2.8V
5	5.5V

IC1907	
PIN NO.	VOLTAGE
1	2.8V
2	2.6V
3	4.9V
4	2.6V
5	1.6V
6	0V
7	0V
8	4.9V
9	0V
10	2.2V
11	5V
12	5V
13	0V
14	3.2V
15	3.1V
16	5V

IC1990	
PIN NO.	VOLTAGE
1	1.45V
2	1.7V
3	1.45V
4	1.7V
5	1.45V
6	1.7V
7	0V
8	1.7V
9	1.45V
10	1.37V
11	1.7V
12	1.37V
13	1.7V
14	3.17V

IC1101	
PIN NO.	VOLTAGE
1	0.7V
2	0.7V
3	0.7V
4	0.7V
5	1.6V
6	1.6V
7	0.7V
8	1.6V
9	1.6V
10	1.6V
11	1.6V
12	1.6V
13	3.2V
14	3.2V
15	0V
16	Groove:3.2V Pit:0V
17	Low reflection:0V High reflection :3.2V
18	0V
19	0V
20	1.45V
21	3.2V
22	0V
23	0V
24	3.2V
25	1.78V
26	1.78V
27	1.35V
28	1.36V
29	1.6V
30	1.6V
31	1.6V
32	1.6V
33	1.6V
34	0V
35	1.6V
36	1.6V
37	0.3V
38	1.6V
39	1.6V
40	1.6V
41	1.6V
42	3.2V
43	0V
44	1V
45	1.6V
46	1.6V
47	0.7V
48	0.7V

IC1201	
PIN NO.	VOLTAGE
1	1.48V
2	0V
3	1.6V
4	0V
5	1.36V
6	1.77V
7	1.6V
8	1.36V
9	1.77V
10	1.25V
11	1.6V
12	3.17V
13	0V
14	0V
15	0V
16	0V
17	1.45V
18	1.56V
19	1.62V
20	1.7V
21	1.5V
22	1.63V
23	1.53V
24	1.8V
25	1.4V
26	1.2V
27	2.5V
28	0.8V
29	1.8V
30	1.4V
31	3.2V
32	1.2V
33	2.5V
34	1.3V
35	1.7V
36	1.3V
37	2.2V
38	0V
39	2.4V
40	1.2V
41	1.1V
42	1.5V
43	2V
44	3V
45	1.1V
46	1.1V
47	0V
48	3V
49	1.56V
50	PLAY:0V REC:1.5V
51	58V
52	0V
53	0V
54	58V
55	0V
56	0V
57	3.2V
58	3.2V
59	3.2V
60	3.17V
61	0V
62	3.17V
63	0V
64	1.3V
65	1.3V
66	Digital input:1.58V Others:0V
67	1.58V
68	3.17V
69	0V
70	1.5V
71	1.55V
72	1.5V
73	0V
74	1V
75	1.55V
76	1.8V
77	1.56V
78	0V
79	0V
80	3.16V
81	0V
82	0V
83	0V
84	1.5V
85	1.5V
86	3.1V
87	3.17V
88	0V
89	3.17V
90	0.5V
91	0.6V
92	0.4V
93	0.4V
94	0.4V
95	0.9V
96	0.7V
97	0.8V
98	3.16V
99	3.15V
100	0V

IC1401	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0.2V
4	3.2V
5	0V
6	0V
7	3.1V
8	0V
9	0V
10	0V
11	0V
12	3.18V
13	144V
14	0V
15	1.5V
16	3.2V
17	3.2V
18	3.1V
19	0V
20	0V
21	0V
22	3.15V
23	3.2V
24	0V
25	3.2V
26	3.2V
27	0V
28	0V
29	2V
30	3.2V
31	0V
32	3.2V
33	0V
34	0.8V
35	2.2V
36	0.2V
37	2.3V
38	0V
39	PLAY:3.15V REC:0V
40	0V
41	0V
42	0V
43	3.2V
44	0V
45	0V
46	3.15V
47	0V
48	0V
49	0V
50	0V
51	0V
52	0V
53	0V
54	0V
55	0V
56	0V
57	0V
58	0V
59	3.2V
60	0V
61	3.2V
62	3.2V
63	0V
64	0V
65	3.2V
66	3.2V
67	3.2V
68	0V
69	0V
70	3.1V
71	0V
72	3.1V
73	97A:0V 97B:3.2V
74	0V
75	3.2V
76	3.2V
77	0V
78	0V
79	0V
80	3.15V
81	0V
82	0V
83	3.2V
84	3.2V
85	3.2V
86	3.2V
87	3.2V
88	3.2V
89	1.7V
90	1.8V
91	1.8V
92	1.4V
93	Low reflection:2.2V High reflection:0.1V
94	3.2V
95	3.2V
96	0V
97	2V
98	3.2V
99	3.2V
100	0V

IC1601	
PIN NO.	VOLTAGE
1	1.25V
2	4V
3	1.5V
4	5.5V
5	5.5V
6	1.5V
7	5V
8	2.7V
9	2.8V
10	0V
11	0V
12	2.7V
13	2.76V
14	1.6V
15	1.6V
16	1.6V
17	3.15V
18	3.15V
19	0V
20	1.6V
21	1.6V
22	1.6V
23	1.23V
24	1.23V
25	1.6V
26	1.6V
27	1.62V
28	2.7V
29	2.8V
30	2.7V
31	2.7V
32	0V
33	0V
34	3.0V
35	2.4V
36	0V
37	1.64V
38	5.5V
39	5.5V
40	1.64V
41	1.68V
42	1.68V

IC1251	
PIN NO.	VOLTAGE
1	2.6V
2	2.6V
3	0.1V
4	2.6V
5	2.6V
6	0.1V
7	0V
8	1.56V
9	0.1V
10	2.6V
11	1.56V
12	0.1V
13	2.6V
14	5.2V

Q1251	
PIN NO.	VOLTAGE
D	4.4V
S	1.4V
G	2.6V

Q1252	
PIN NO.	VOLTAGE
D	4.4V
S	1.4V
G	2.6V

Q1253	
PIN NO.	VOLTAGE
D	15V
S	0V
G	2.6V

Q1254	
PIN NO.	VOLTAGE
D	15V
S	0V
G	2.6V

IC1916	
PIN NO.	VOLTAGE
1	1.58V
2	3.2V
3	1.58V
4	3.2V
5	Digital input:2.2V Others:0V
6	Digital input:1.58V Others:0V
7	1.55V
8	2.2V
9	3.2V
10	3.2V
11	97A:3.2V 97B:1V
12	97A:3.2V 97A:0.9V

Q1804	
PIN NO.	VOLTAGE
E	5.4V
C	5.4V
B	4.8V

Q1805	
PIN NO.	VOLTAGE
E	0V
C	0.7V
B	3.1V

Q1701	
PIN NO.	VOLTAGE
E	3.2V
C	5.4V
B	3.85V

IC1802	
PIN NO.	VOLTAGE
1	2.46V
2	0V
3	3.85V

IC1701	
PIN NO.	VOLTAGE
1	0V
2	3.2V
3	1.4V
4	1.5V
5	1.4V
6	0V
7	3.2V
8	0V
9	0V
10	3.2V
11	0V
12	1.5V
13	3.17V
14	3.17V
15	3.17V
16	1.55V
17	3.17V
18	0V
19	1V
20	0V
21	0V
22	0V
23	3.2V
24	1.57V
25	3.2V
26	1.57V
27	0V
28	1.6V

IC1402	
PIN NO.	VOLTAGE
1	0V
2	3.2V
3	3.2V
4	3.2V
5	0V
6	0V
7	0V
8	0V

IC1202	
PIN NO.	VOLTAGE
1	1.1V
2	1.1V
3	3V
4	2V
5	1.5V
6	1.8V
7	0.8V
8	2.4V
9	1.2V
10	3.2V
11	1.2V
12	2.5V
13	1.3V
14	1.7V
15	1.3V
16	2.2V
17	2.4V
18	1.2V
19	1.1V
20	0V

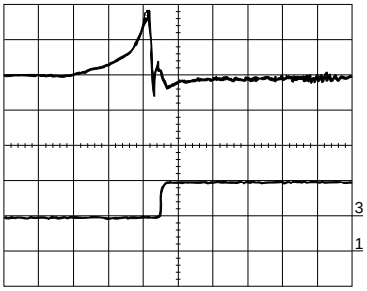
WAVEFORMS OF CD CIRCUIT

STOP → PLAY

FOCUS — SERCH

❶ 5ms 0.50 V IC1 (20) F.E

❷ 5ms 5.0 V IC1 (54) DRF

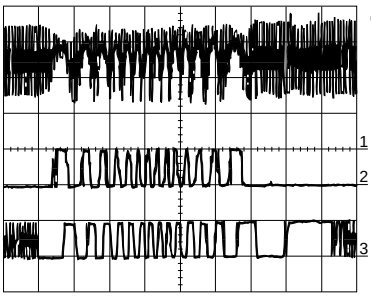


❸ 0.5ms 1.00 V HF

❹ 0.5ms 5.0 V HFL

❺ 0.5ms 5.0 V TES

CUE

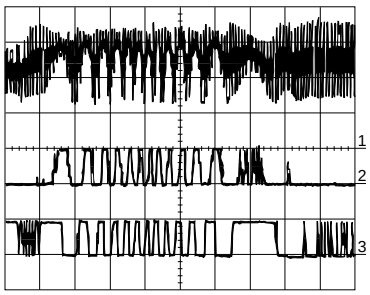


❸ 0.5ms 1.00 V HF

❹ 0.5ms 5.0 V HFL

❺ 0.5ms 5.0 V TES

REVIEW



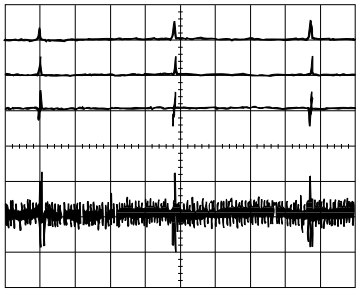
❻ 50ms 10.0 V JP+

❼ 50ms 10.0 V JP-

❽ 50ms 0.50 V JP

❾ 50ms 1.00 V TE

CUE

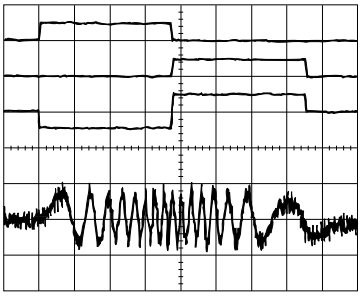


❻ 0.5ms 10.0 V JP+

❼ 0.5ms 10.0 V JP-

❽ 0.5ms 0.50 V JP

❾ 0.5ms 1.00 V TE



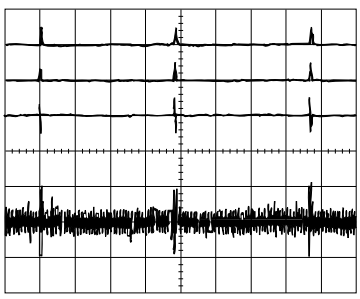
❻ 50ms 10.0 V JP+

❼ 50ms 10.0 V JP-

❽ 50ms 0.50 V JP

❾ 50ms 1.00 V TE

REVIEW

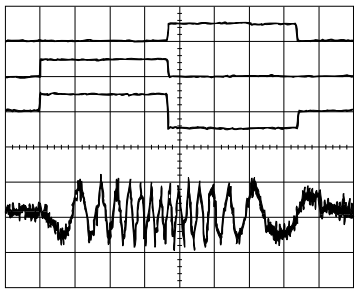


❻ 0.5ms 10.0 V JP+

❼ 0.5ms 10.0 V JP-

❽ 0.5ms 0.50 V JP

❾ 0.5ms 1.00 V TE

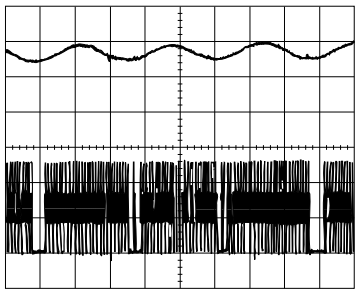


NORMAL DISC
TN0=01

❿ 20ms 1.00 V SPO

⓫ 20ms 2.00 V CLV+

PLAY

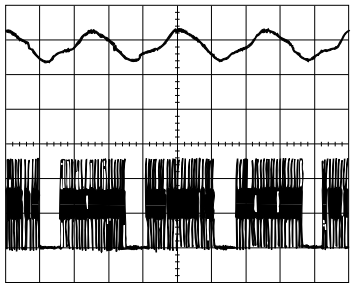


TCD-712 (140mm)
TN0=01

❿ 50ms 1.00 V SPO

⓫ 50ms 2.00 V CLV+

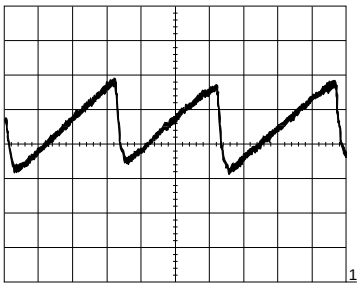
PLAY



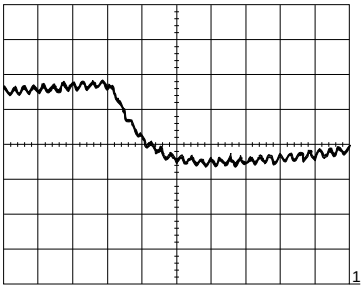
TCD-712

⓬ 5s 100mV SLD

PLAY

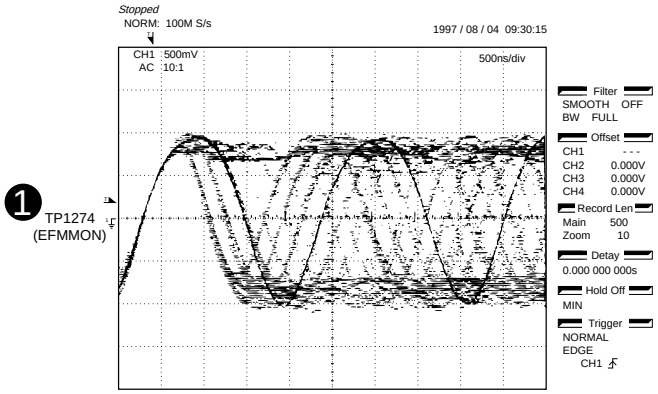


⓬ 0.5s 100mV SLD

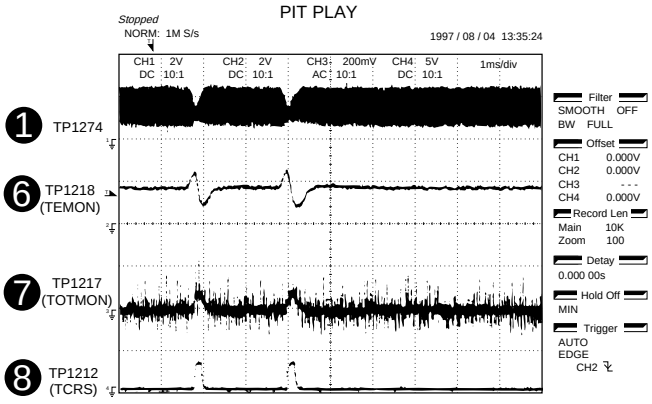


WAVEFORMS OF MD CIRCUIT

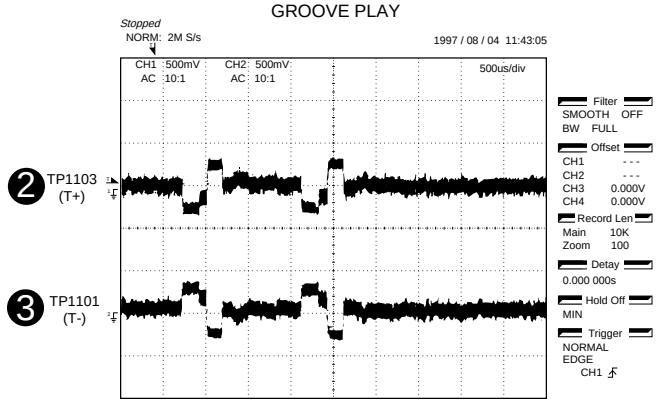
PLAY STATE



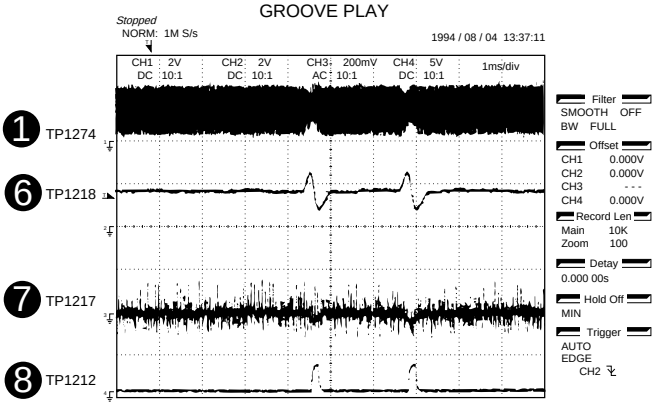
PIT PLAY



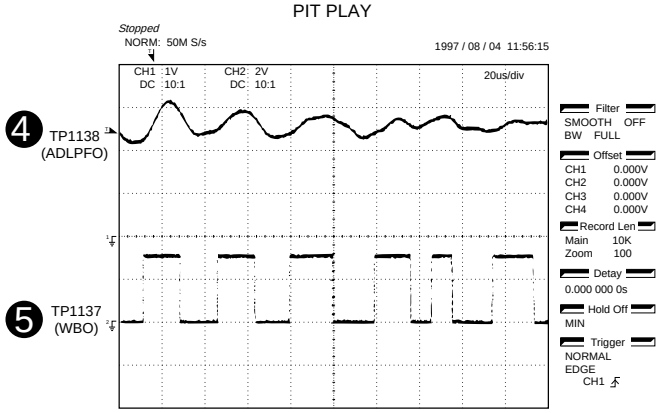
GROOVE PLAY


Stopped
NORM: 2M S/s
1997 / 08 / 04 11:43:05
CH1 500mV AC 10:1
CH2 500mV AC 10:1
500us/div
2 TP1103 (T+)
3 TP1101 (T-)
Filter SMOOTH OFF BW FULL
Offset CH1 - - - CH2 - - - CH3 0.000V CH4 0.000V
Record Len Main 10K Zoom 100
Detay 0.000 000s
Hold Off MIN
Trigger NORMAL EDGE CH1

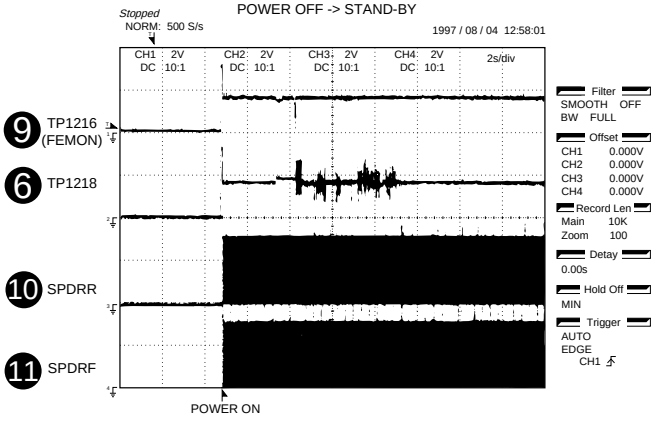
GROOVE PLAY



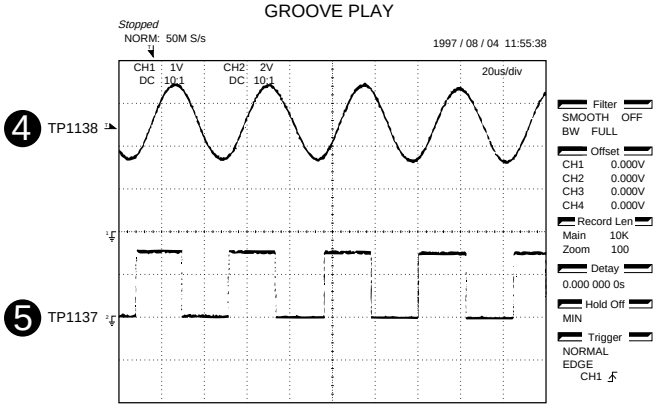
PIT PLAY


Stopped
NORM: 50M S/s
1997 / 08 / 04 11:56:15
CH1 1V DC 10:1
CH2 2V DC 10:1
20us/div
4 TP1138 (ADLPFO)
5 TP1137 (WBO)
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 10K Zoom 100
Detay 0.000 000 0s
Hold Off MIN
Trigger NORMAL EDGE CH1

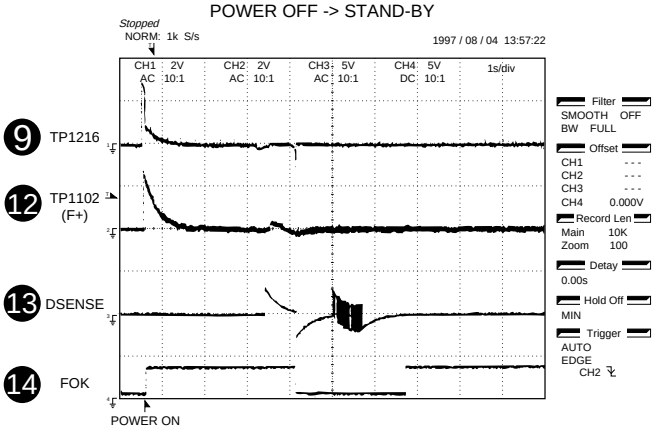
POWER OFF -> STAND-BY

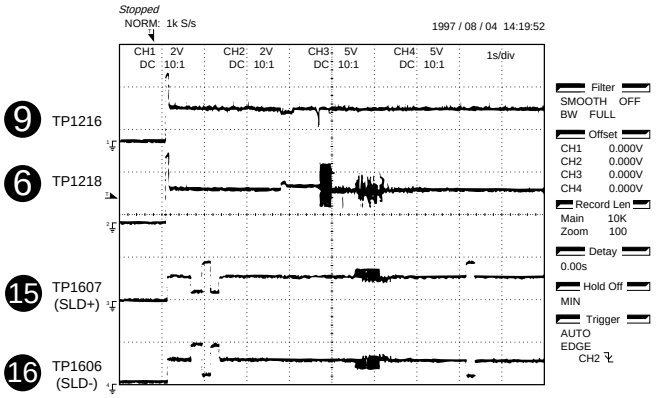


GROOVE PLAY

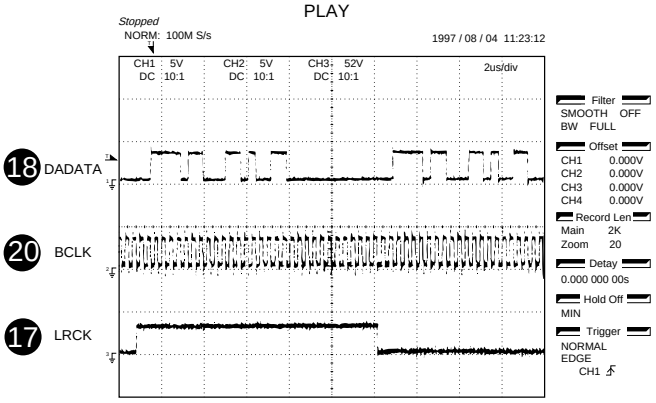


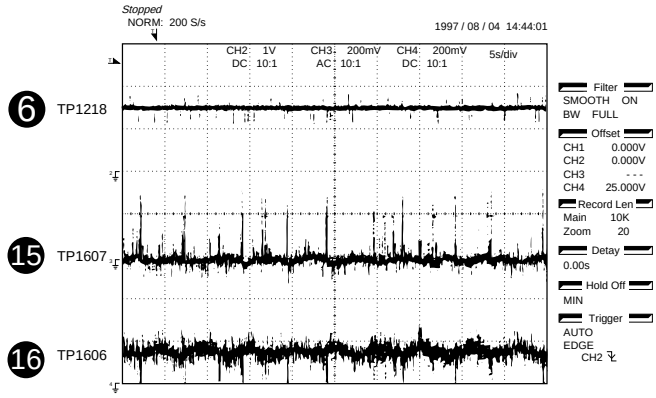
POWER OFF -> STAND-BY



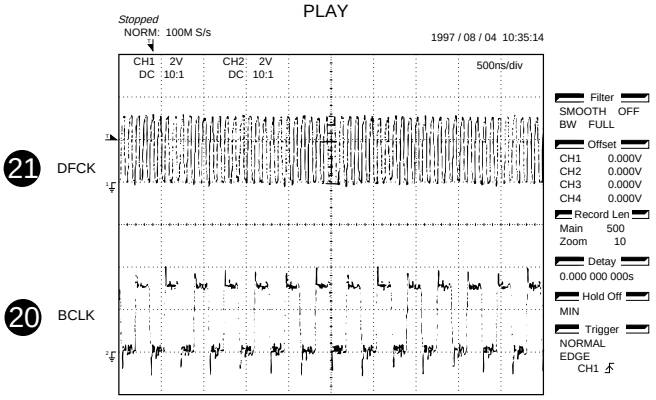


PLAY

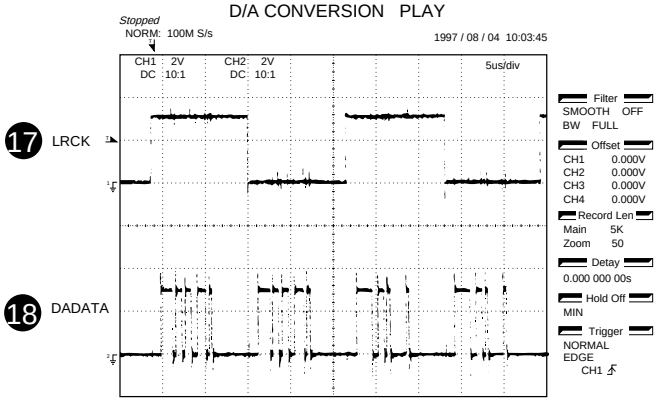




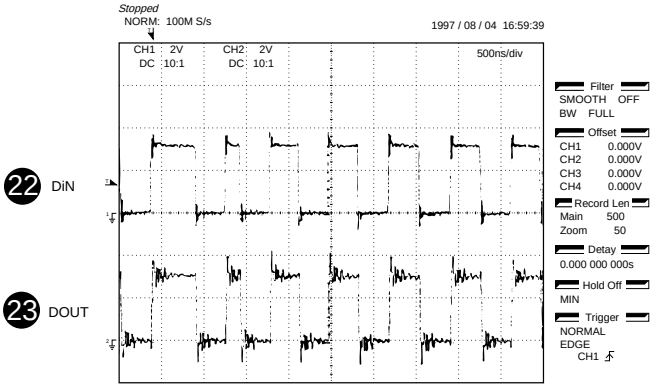
PLAY



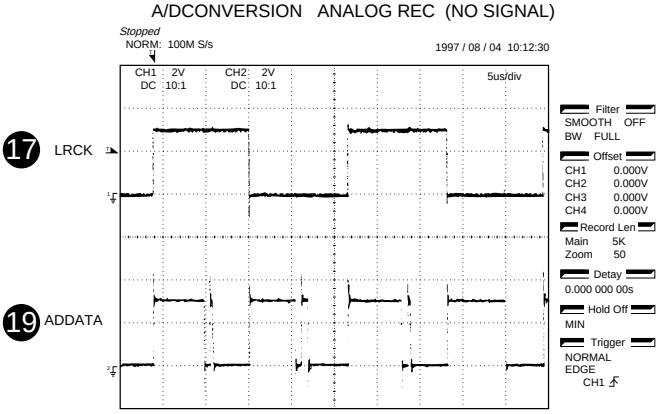
D/A CONVERSION PLAY



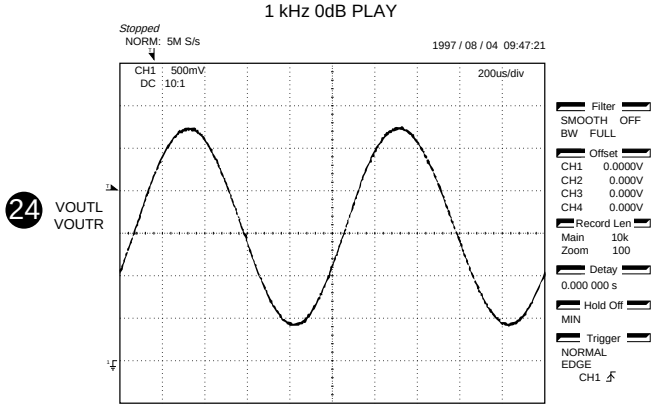
DIGITAL REC



A/DCONVERSION ANALOG REC (NO SIGNAL)



1 kHz 0dB PLAY


Stopped
NORM: 5M S/s
1997 / 08 / 04 09:47:21
CH1 500mV DC 10:1
200us/div
24 VOUTL VOUTR
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 10k Zoom 100
Detay 0.000 000 s
Hold Off MIN
Trigger NORMAL EDGE CH1

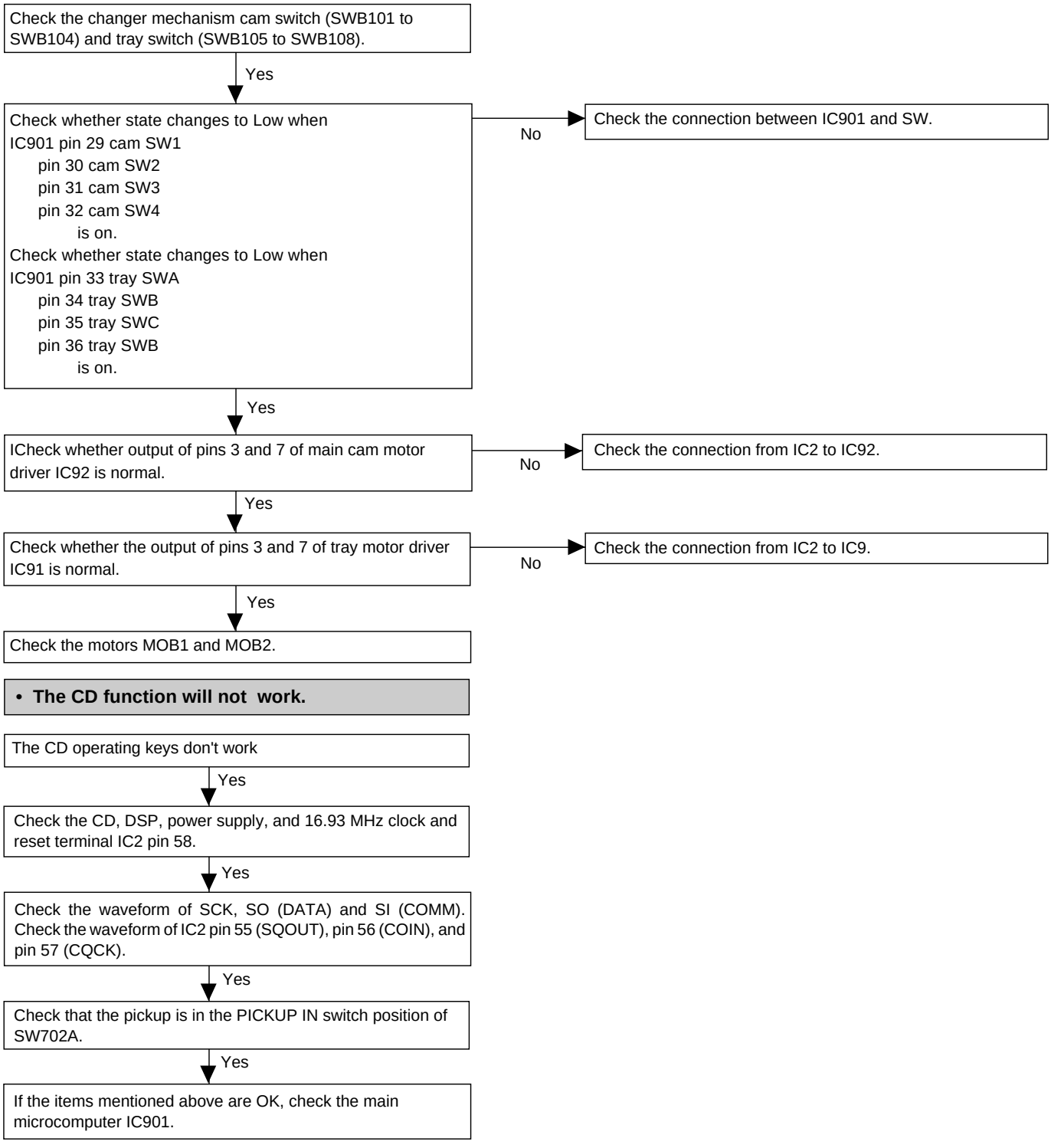
TROUBLESHOOTING (CD SECTION)

When the CD does not function

When the CD section does not operate When the objective lens of the optical pickup is dirty,this section may not operate.Clean the objective lens,and check the playback operation.When this section does not operate even after the above step is taken,check the following items.
Remove the cabinet and follow the troubleshooting instructions.
"Track skipping and/or no TOC(Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.
Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.
Do not touch the lens with the bare hand.

• The CD tray fails to operate.


Check the changer mechanism cam switch (SWB101 to SWB104) and tray switch (SWB105 to SWB108).
Yes
Check whether state changes to Low when
IC901 pin 29 cam SW1
pin 30 cam SW2
pin 31 cam SW3
pin 32 cam SW4
is on.
Check whether state changes to Low when
IC901 pin 33 tray SWA
pin 34 tray SWB
pin 35 tray SWC
pin 36 tray SWB
is on.
No
Check the connection between IC901 and SW.
Yes
ICheck whether output of pins 3 and 7 of main cam motor driver IC92 is normal.
No
Check the connection from IC2 to IC92.
Yes
Check whether the output of pins 3 and 7 of tray motor driver IC91 is normal.
No
Check the connection from IC2 to IC9.
Yes
Check the motors MOB1 and MOB2.

• The CD function will not work.

The CD operating keys don't work
Yes
Check the CD, DSP, power supply, and 16.93 MHz clock and reset terminal IC2 pin 58.
Yes
Check the waveform of SCK, SO (DATA) and SI (COMM). Check the waveform of IC2 pin 55 (SQOUT), pin 56 (COIN), and pin 57 (CQCK).
Yes
Check that the pickup is in the PICKUP IN switch position of SW702A.
Yes
If the items mentioned above are OK, check the main microcomputer IC901.

• The CD operation keys work.

Check the FOCUS-HF system.

Playback can be performed without a disc.

Yes

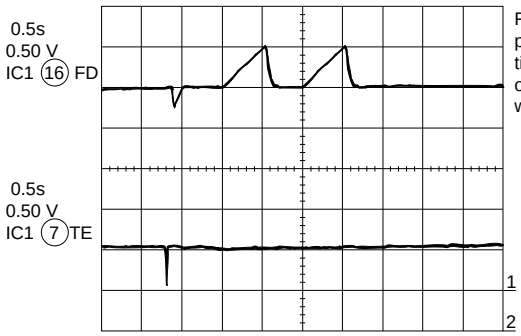
Does the pickup move up and down two twice? → No → Focus search OK

Yes

Does the output waveform of IC1 pin 16 (FD) match that shown in Figure 73-1? → No → Check the area around IC5 to CNP2.

Yes

Check 4 MHz of IC1 pin 50 (CLK) line and the microcomputer data of pin 51 (CL), pin 52 (DAT) and pin 53 (CE).



Focus search is performed two times when play operation is done without disc.

Figure 73-1

• Playback can only be performed when disc is loaded.

Is the Focus servo active? (Can you hear it working?) → No → Check the laser diode driver. Check the area around IC1 pin 16 to pin 21 (focus servo circuit).

Yes

Does the DRF signal of IC1 pin 54 change from "L" to "H"? → No → If the disc is not turning, the DRF should not change to "H". → Yes → Check the spindle system.

Yes

Is HF waveform normal (see the Figure 73-2, Figure73-3.)? → No → Level is abnormal → Yes → Check the periphery of IC1 pin 41 and pin 42.

Yes

Check the tracking system.

No → Waveform is unstable. → Yes → Check the spindle system.

HF
1.0V/DIV
0.5µsec/DIV(DC)
(When playing back the disc)

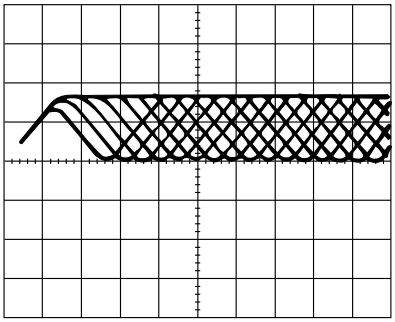
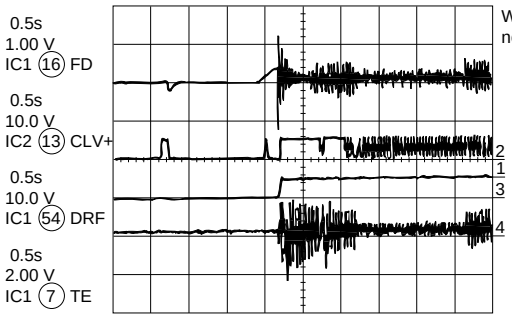


Figure 73-2



Waveform in case of normal play-back

Figure 73-3

• Check the tracking system.

Check the waveform of IC1 pin 7 (TE).

The waveform shown in Figure 74-1 appears, and no disc state appears soon. → Yes → Tracking servo is inoperative. → Yes → Check the periphery of IC1 pin 8 to pin 15, and IC5 to CNP2.

Playback is possible in TEST mode. → Yes → Playback is impossible although initialization is possible. → Yes → Normal jump is impeded, and the program top cannot be reached. → Yes → Check the periphery of IC1 pin 14.

Data cannot be read. → Yes → Check the VCO-PLL system.

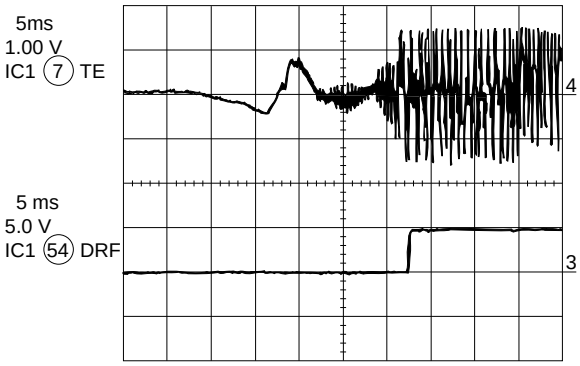


Figure 74-1

• Check the spindle system

Play operation is performed without disc.

Yes

The turntable rotates a little. → No → The spindle driver is normal.

Yes

The turntable fails to rotate or rotates at high speed. → No → Check the periphery of IC1 pin 23 to pin 27, pin 39, pin 40, IC2 pin 12, pin 13, from IC5 to CNP3.

• Checking the VCO-PLL system.

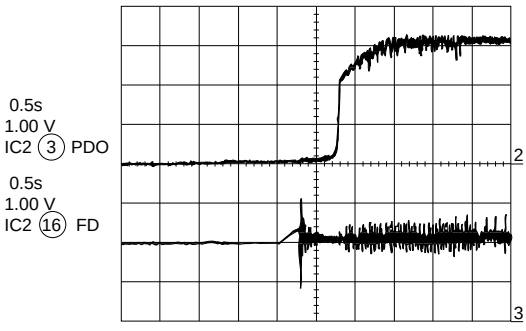
Play operation is performed when disc exists.

Yes

Although the HF waveform is normal, TOC data cannot be read. → No → Check the PDD waveform of IC2 pin 3. (Figure 74-2)

Abnormal

Check the IC1 pin 43, pin 44, IC2 pin 3, pin 5, pin 7, pin 10, and pin 11.

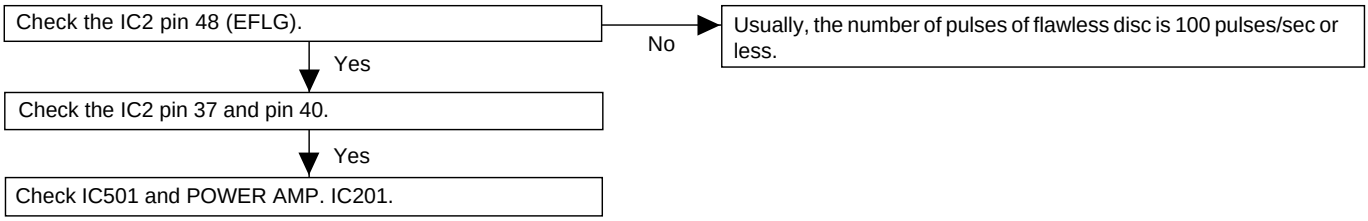


Stop -- > Play

As VCO frequency is locked at 4.32 MHz, voltage of PDD rises and stabilizes.

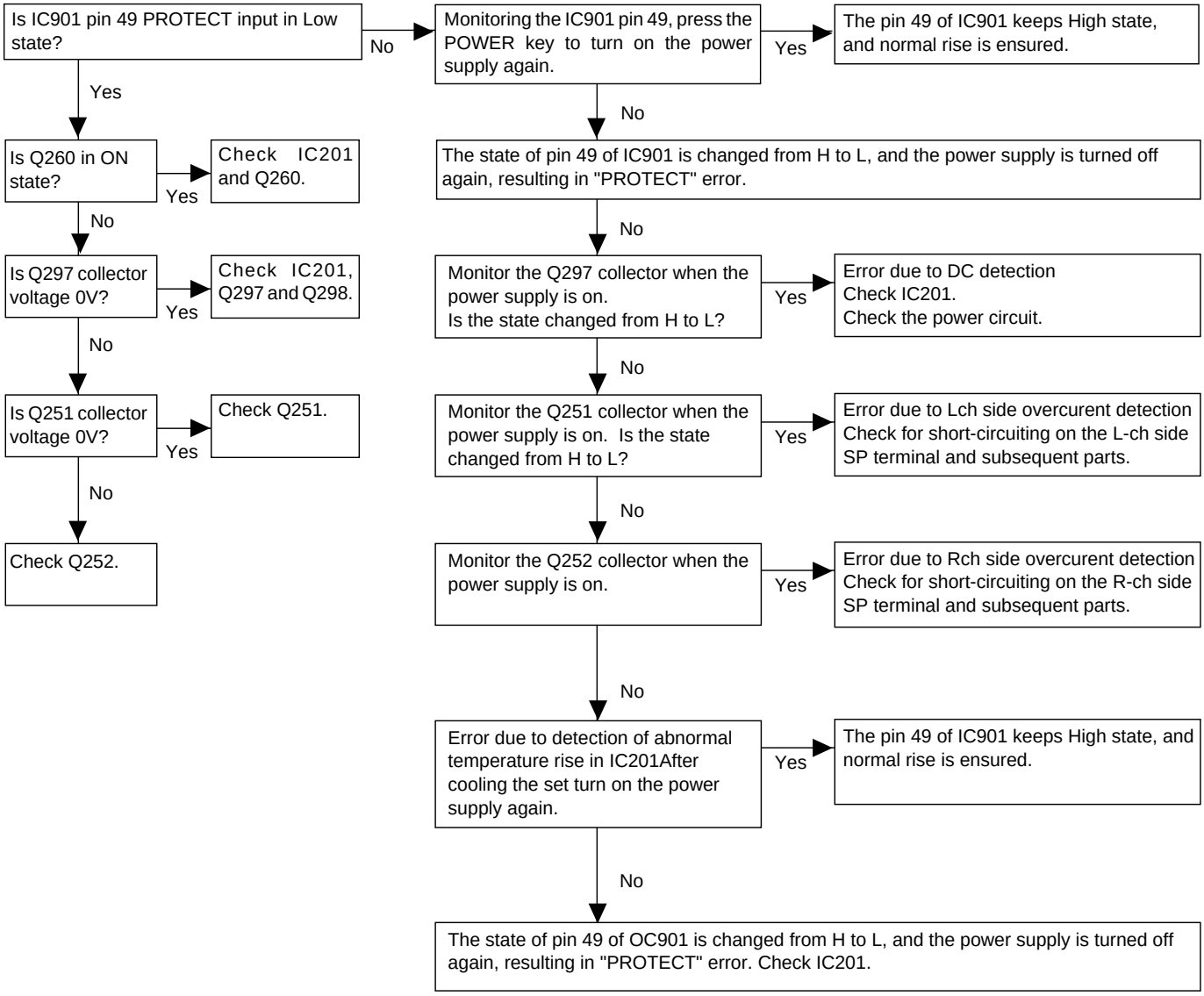
Figure 74-2

• Although HF waveform is normal and time indication is normal, no sound is not output.


Check the IC2 pin 48 (EFLG).
No
Usually, the number of pulses of flawless disc is 100 pulses/sec or less.
Yes
Check the IC2 pin 37 and pin 40.
Yes
Check IC501 and POWER AMP. IC201.

Trouble-shooting (Amp section)

• When the power supply is turned off (POWER OFF), and the "PROTECT" blinks

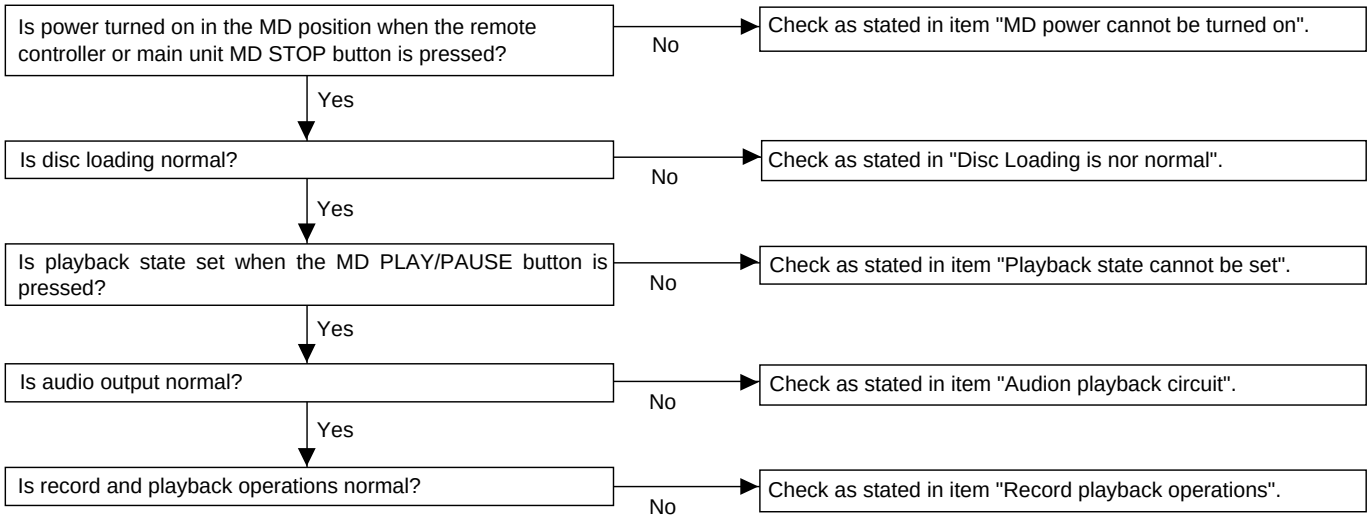

Is IC901 pin 49 PROTECT input in Low state?
No
Monitoring the IC901 pin 49, press the POWER key to turn on the power supply again.
Yes
The pin 49 of IC901 keeps High state, and normal rise is ensured.
Yes
No
Is Q260 in ON state?
Yes
Check IC201 and Q260.
The state of pin 49 of IC901 is changed from H to L, and the power supply is turned off again, resulting in "PROTECT" error.
No
No
Is Q297 collector voltage 0V?
Yes
Check IC201, Q297 and Q298.
Monitor the Q297 collector when the power supply is on.
Is the state changed from H to L?
Yes
Error due to DC detection
Check IC201.
Check the power circuit.
No
No
Is Q251 collector voltage 0V?
Yes
Check Q251.
Monitor the Q251 collector when the power supply is on. Is the state changed from H to L?
Yes
Error due to Lch side overcurent detection
Check for short-circuiting on the L-ch side SP terminal and subsequent parts.
No
No
Check Q252.
Monitor the Q252 collector when the power supply is on.
Yes
Error due to Rch side overcurent detection
Check for short-circuiting on the R-ch side SP terminal and subsequent parts.
No
Error due to detection of abnormal temperature rise in IC201After cooling the set turn on the power supply again.
Yes
The pin 49 of IC901 keeps High state, and normal rise is ensured.
No
The state of pin 49 of OC901 is changed from H to L, and the power supply is turned off again, resulting in "PROTECT" error. Check IC201.

TROUBLE SHOOTING (MD SECTION)

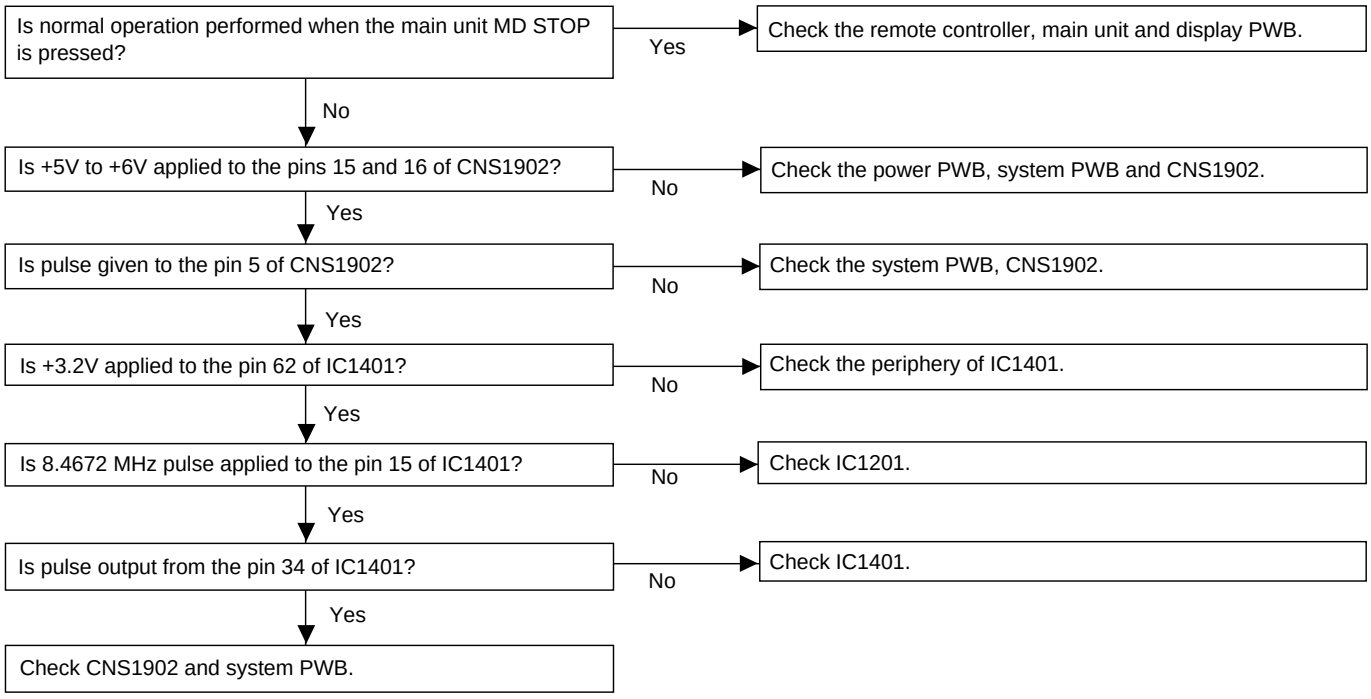
When MD fails to operate

If the objective lens of optical pickup is contaminated, MD may fail to operate. At first, clean the objective lens to check playback operation. If MD fails persistently to operate, perform checks as follows.
If dust or foreign substance is accumulated on the pickup lens, playback is disturbed and indication of TOC (content of tracks) may be disabled. Before adjusting check that the lens is clean. If the lens is contaminated, treat it as follows.

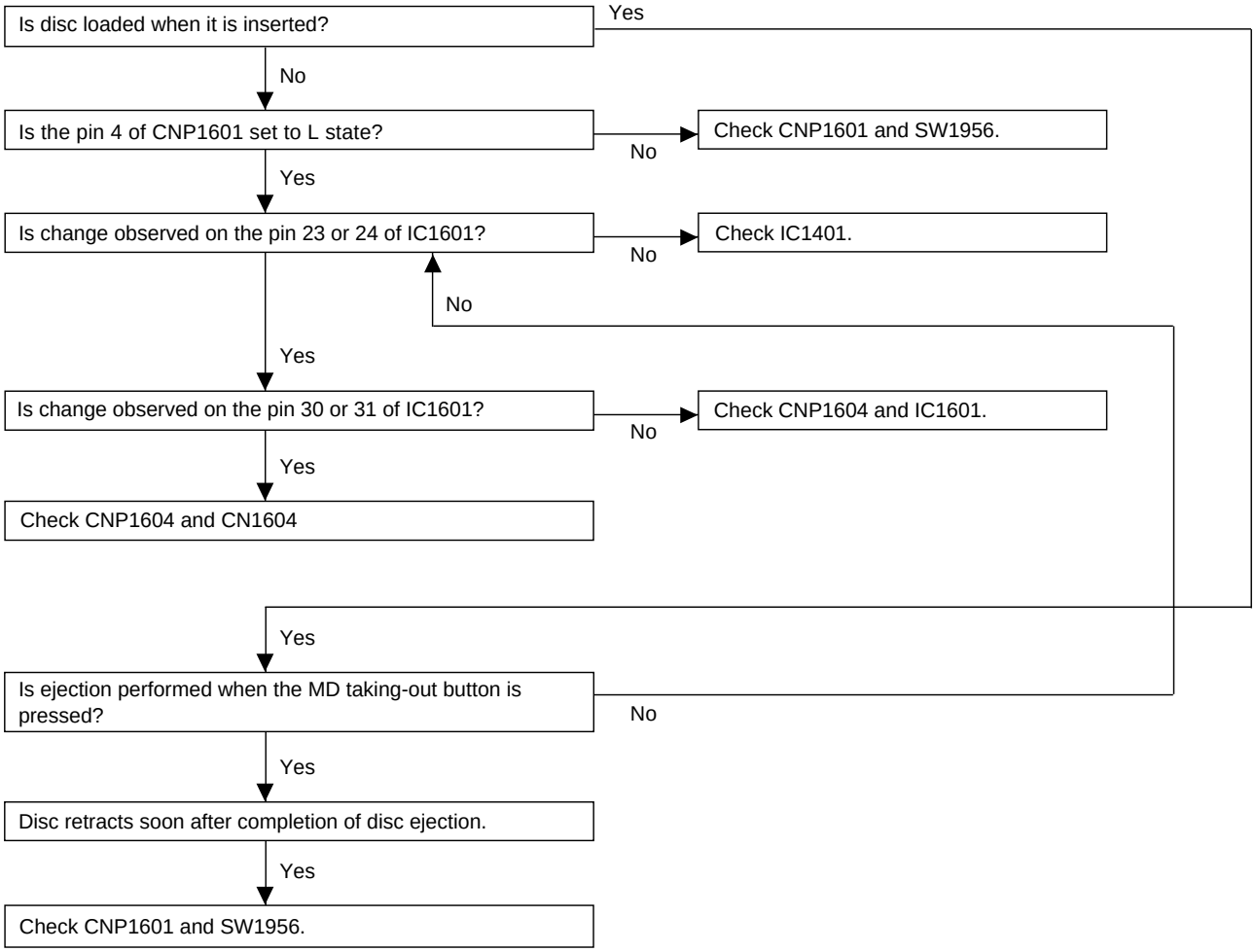
Turn off power supply, impregnate the lens cleaning paper with a small quantity of isopropyl alcohol, and gently wipe the lens with it with due care so that the lens is not damaged. At this time do not touch the lens directly with your finger.


Is power turned on in the MD position when the remote controller or main unit MD STOP button is pressed?
No
Check as stated in item "MD power cannot be turned on".
Yes
Is disc loading normal?
No
Check as stated in "Disc Loading is nor normal".
Yes
Is playback state set when the MD PLAY/PAUSE button is pressed?
No
Check as stated in item "Playback state cannot be set".
Yes
Is audio output normal?
No
Check as stated in item "Audion playback circuit".
Yes
Is record and playback operations normal?
No
Check as stated in item "Record playback operations".

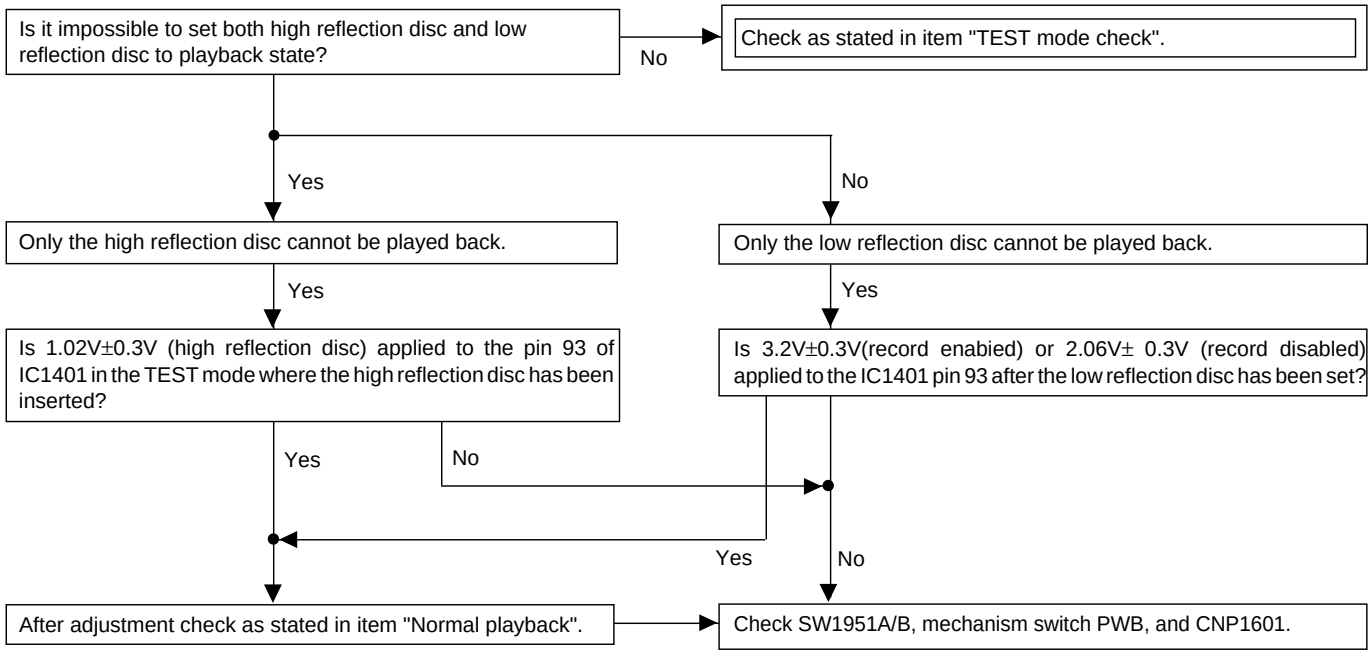
• MD power cannot be turned on.


Is normal operation performed when the main unit MD STOP is pressed?
Yes
Check the remote controller, main unit and display PWB.
No
Is +5V to +6V applied to the pins 15 and 16 of CNS1902?
No
Check the power PWB, system PWB and CNS1902.
Yes
Is pulse given to the pin 5 of CNS1902?
No
Check the system PWB, CNS1902.
Yes
Is +3.2V applied to the pin 62 of IC1401?
No
Check the periphery of IC1401.
Yes
Is 8.4672 MHz pulse applied to the pin 15 of IC1401?
No
Check IC1201.
Yes
Is pulse output from the pin 34 of IC1401?
No
Check IC1401.
Yes
Check CNS1902 and system PWB.

• Disc loading is not normal.

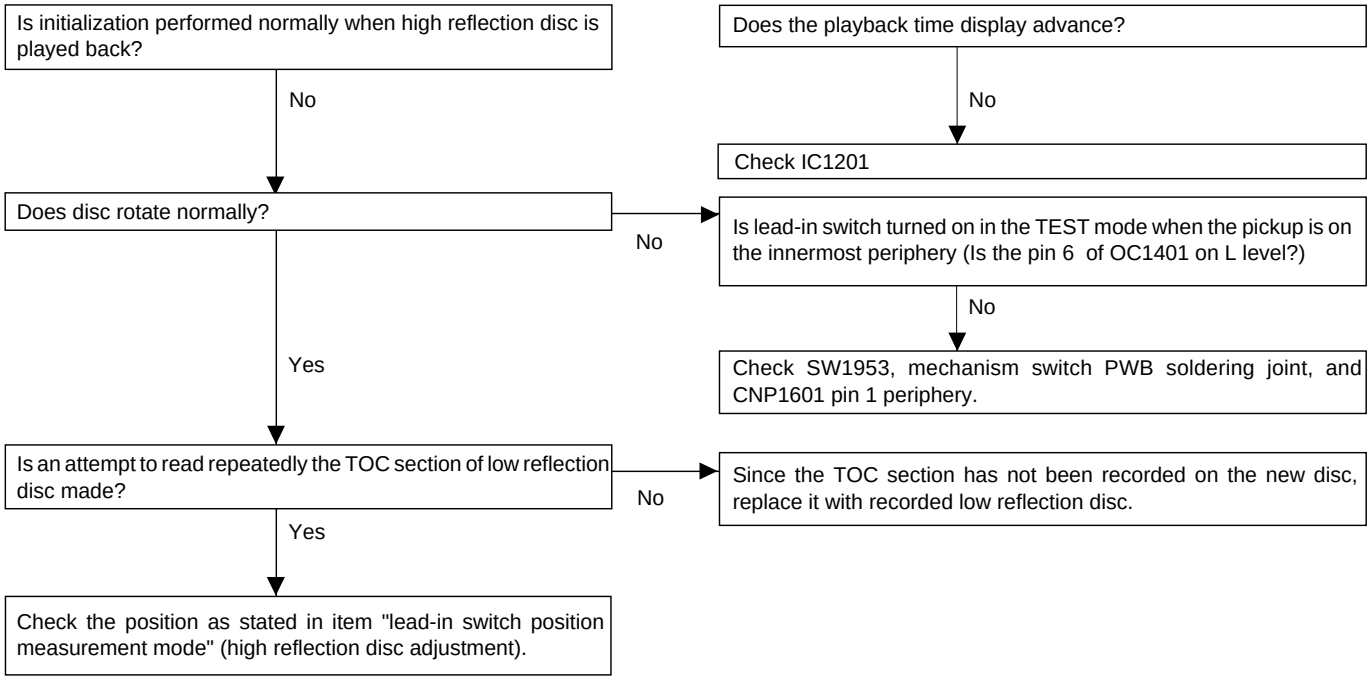


• Playback state cannot be set.


Is it impossible to set both high reflection disc and low reflection disc to playback state?
No
Check as stated in item "TEST mode check".
Yes
No
Only the high reflection disc cannot be played back.
Only the low reflection disc cannot be played back.
Yes
Yes
Is 1.02V±0.3V (high reflection disc) applied to the pin 93 of IC1401 in the TEST mode where the high reflection disc has been inserted?
Is 3.2V±0.3V(record enabied) or 2.06V± 0.3V (record disabled) applied to the IC1401 pin 93 after the low reflection disc has been set?
Yes
No
Yes
No
After adjustment check as stated in item "Normal playback".
Check SW1951A/B, mechanism switch PWB, and CNP1601.

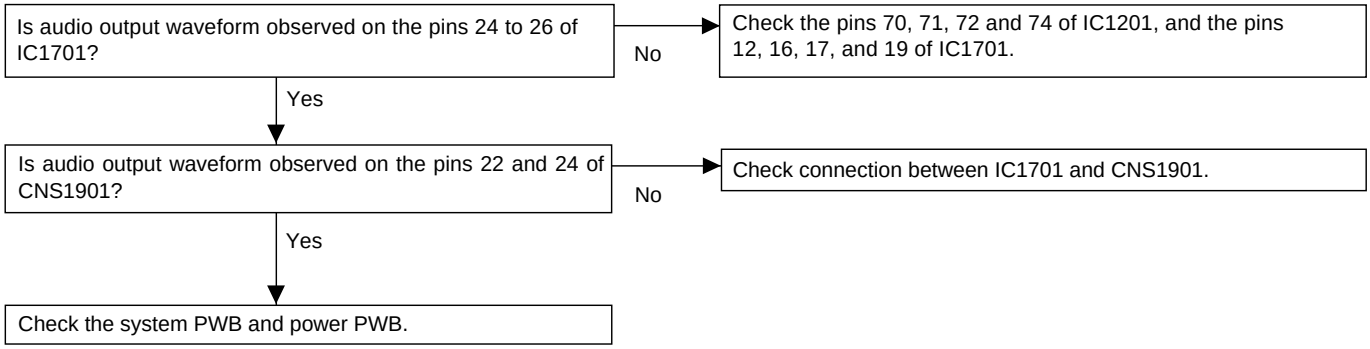
• Normal playback

When it has been confirmed that EEPROM value is normal in the TEST mode


Is initialization performed normally when high reflection disc is played back?
No
Does disc rotate normally?
No
Is lead-in switch turned on in the TEST mode when the pickup is on the innermost periphery (Is the pin 6 of OC1401 on L level?)
No
Check SW1953, mechanism switch PWB soldering joint, and CNP1601 pin 1 periphery.
Yes
Is an attempt to read repeatedly the TOC section of low reflection disc made?
No
Since the TOC section has not been recorded on the new disc, replace it with recorded low reflection disc.
Yes
Check the position as stated in item "lead-in switch position measurement mode" (high reflection disc adjustment).
Does the playback time display advance?
No
Check IC1201

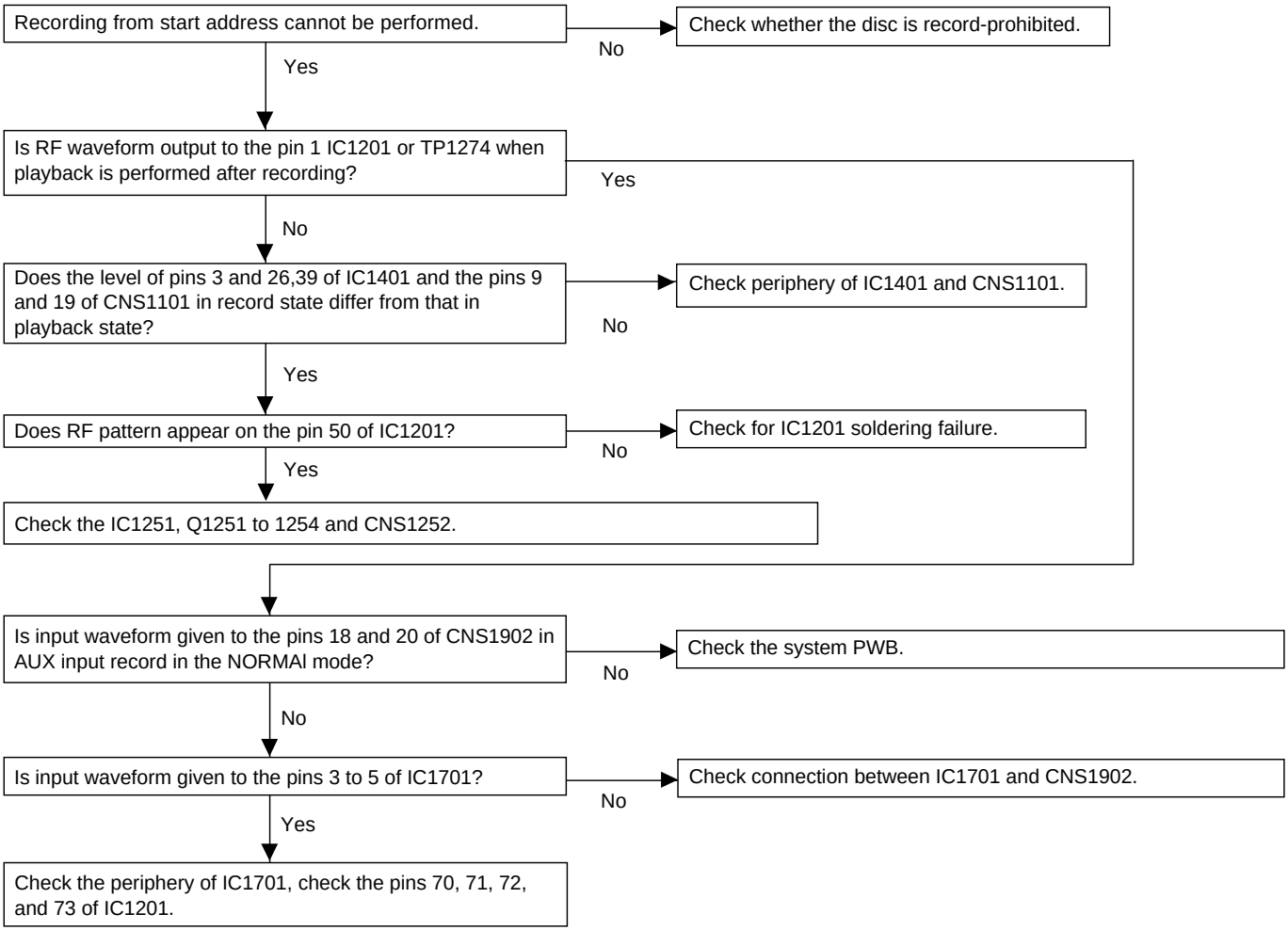
• Audio playback circuit

When sound is not output although the playback time display advances during playback in the normal mode.

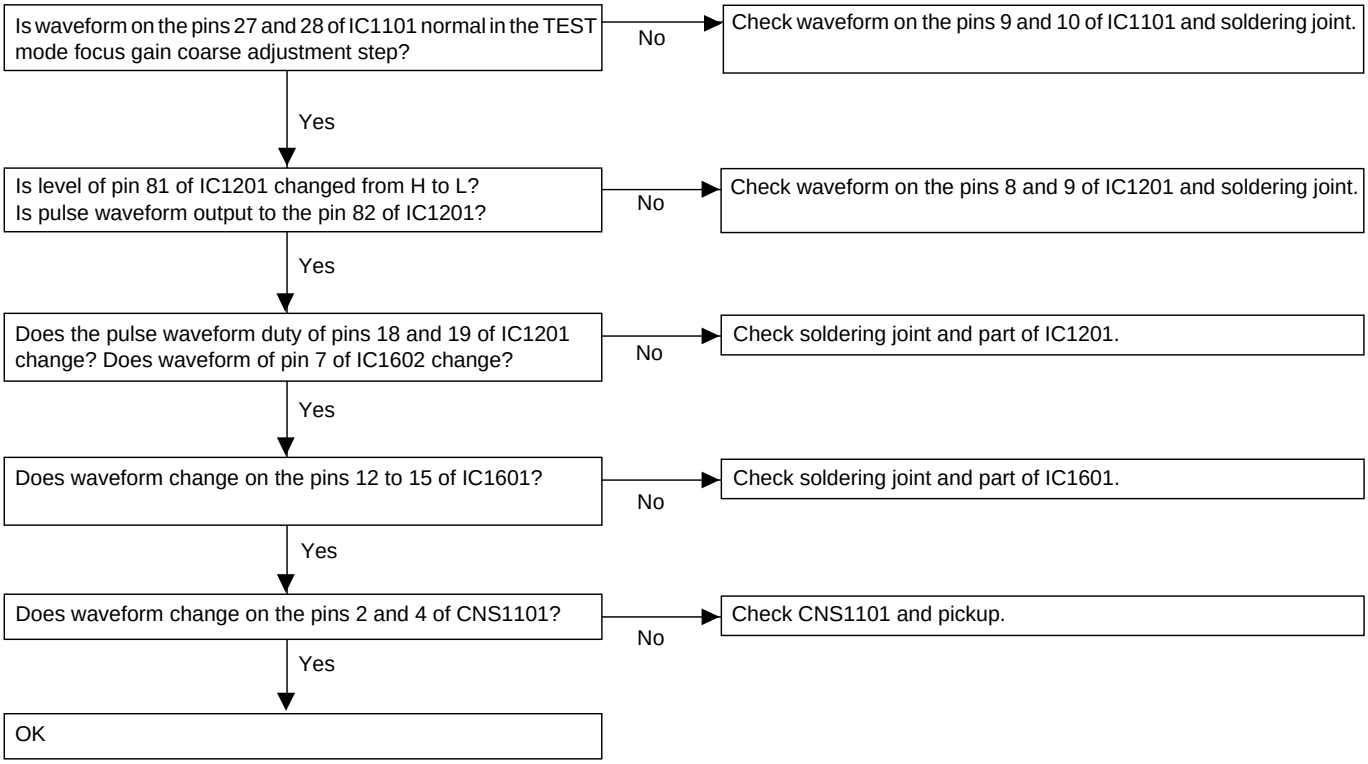

Is audio output waveform observed on the pins 24 to 26 of IC1701?
No
Check the pins 70, 71, 72 and 74 of IC1201, and the pins 12, 16, 17, and 19 of IC1701.
Yes
Is audio output waveform observed on the pins 22 and 24 of CNS1901?
No
Check connection between IC1701 and CNS1901.
Yes
Check the system PWB and power PWB.

• Record and playback operation

Insert the low reflection disc, and after verifying the audio output in the normal mode playback set the record/playback TEST mode


Recording from start address cannot be performed.
No
Check whether the disc is record-prohibited.
Yes
Is RF waveform output to the pin 1 IC1201 or TP1274 when playback is performed after recording?
Yes
No
Does the level of pins 3 and 26,39 of IC1401 and the pins 9 and 19 of CNS1101 in record state differ from that in playback state?
Check periphery of IC1401 and CNS1101.
No
Yes
Does RF pattern appear on the pin 50 of IC1201?
Check for IC1201 soldering failure.
No
Yes
Check the IC1251, Q1251 to 1254 and CNS1252.
Is input waveform given to the pins 18 and 20 of CNS1902 in AUX input record in the NORMAl mode?
Check the system PWB.
No
No
Is input waveform given to the pins 3 to 5 of IC1701?
Check connection between IC1701 and CNS1902.
No
Yes
Check the periphery of IC1701, check the pins 70, 71, 72, and 73 of IC1201.

• Focus servo failure


Is waveform on the pins 27 and 28 of IC1101 normal in the TEST mode focus gain coarse adjustment step?
No
Check waveform on the pins 9 and 10 of IC1101 and soldering joint.
Yes
Is level of pin 81 of IC1201 changed from H to L?
Is pulse waveform output to the pin 82 of IC1201?
No
Check waveform on the pins 8 and 9 of IC1201 and soldering joint.
Yes
Does the pulse waveform duty of pins 18 and 19 of IC1201 change? Does waveform of pin 7 of IC1602 change?
No
Check soldering joint and part of IC1201.
Yes
Does waveform change on the pins 12 to 15 of IC1601?
No
Check soldering joint and part of IC1601.
Yes
Does waveform change on the pins 2 and 4 of CNS1101?
No
Check CNS1101 and pickup.
Yes
OK

MD-X8

• Disc motor fails to run

Does waveform appear on the pins 24 and 25 of IC1201 in the TEST mode focus gain coarse adjustment step?

No → Check soldering joint and parts of pins 24 and 25 of IC1201, and peripheral circuit.

Yes ↓

Does waveform appear on the pins 34 and 35 of IC1601, pins 1 and 2 of CNP1603?

No → Check soldering joint of PWB of completed IC1601 and CNP1601 disc motor.

Yes ↓

Replace the completed disc motor.

• Tracking servo failure

Does waveform appear on the pins 8 and 9 of IC1601, and pins 1 and 3 of CNS1101 in the TEST mode focus gain adjustment step?

No → Check the soldering joint of pins 20 and 21 of IC1201, IC1601, IC1601, CNS1101.

Yes ↓

Replace the optical pickup.

• Slide servo failure

Does the pickup move to external and internal periphery when the ►► or ◄◄ button is pressed in the TEST mode?

Yes → Check the waveform on the pins 22 and 23 of IC1201, check the peripheral parts and soldering joint.

No ↓

Is there any change on the pins 22 and 23 of IC1201 when the ►► or ◄◄ button is pressed?

No → Check the waveform on the pins 22 and 23 of IC1201, check the peripheral parts and soldering joint.

Yes ↓

Is there any change on the pins 28 and 29 of IC1601, and the pins 1 and 2 of CNP1602 when the►► or ◄◄ button is pressed?

No → Check the soldering joint of IC1601 and CNP1602.

Yes ↓

Does voltage on the positive and negative terminals of slide motor change when the►► or◄◄ button is pressed?

No → Check the soldering joint connected to the slide motor to see whether there is wire breakage.

Yes ↓

Replace the slide motor.

FUNCTION TABLE OF IC

IC901 RH-iX2679AFZZ:System Control Micon (iX2679AF) (1/3)

Pin No.	Terminal Name	Port Name	Input/Output	Function
1	RESET	P60	Output	Reset signal for MD microcomputer
2	S-ID	P61	Output	Track mark signal and MD ON/OF control signal for MD
3	LOAD	P62	Input	MD loading switch detection DISC IN = H
4	SYN	P63	Output	Connection of crystal for main system clock oscillation
5	DATA	P64	Output	12-bit serial data output to serial-parallel conversion element MSB fast transmission
6	CLK	P65	Output	12-bit serial clock output to serial-parallel conversion element Data taking-in with H edge at serial-parallel conversion element sid
7	LCK1	P66	Output	Latch clock for serial-parallel conversion element 1 H pulse output Output to port with H edge at serial-parallel conversion element side
8	LCK2	P67	Output	Latch clock for serial-parallel conversion element 2 H pulse output Output to port with H edge at serial-parallel conversion element side
9	—	VDD	—	To be connected to VDD
10	CSB	P100	Output	Chip selection output to LCD driver
11	RS	P101	Output	Display/command recognition output to LCD driver Display RAM data: L output, command data: H output
12	WRB	P102	Output	Read output to LCD driver When L output is given, the LCD driver side becomes data pass state.
13	RDB	P103	Output	Write output to LCD driver When L output is given, the LCD driver side becomes active, and data is taken in with H edge.
14	D0	P30	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
15	D1	P31	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
16	D2	P32	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
17	D3	P33	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
18	D4	P34	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
19	D5	P35	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
20	D6	P36	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
21	D7	P37	Input/Output	Input/output port to send and receive parallel data for D0 to D7 to and from LCD driver
22	—	TEST	—	To be connected to VDD
23	Motor voltage L/H	P90	Output	EH mechanism motor control Nch open drain (Externally provided PULL UP is required)
24	Cam motor forward rotation	P91	Output	EH mechanism motor control Nch open drain (Externally provided PULL UP is required)
25	Cam motor reverse rotation	P92	Output	EH mechanism motor control Nch open drain (Externally provided PULL UP is required)
26	Tray motor forward rotation	P93	Output	EH mechanism motor control Nch open drain (Externally provided PULL UP is required)
27	Tray motor reverse rotation	P94	Output	EH mechanism motor control Nch open drain (Externally provided PULL UP is required)
28*	Not used	P95	Output	EH mechanism motor control Nch open drain (Externally provided PULL UP is required)
29	Cam SW1	P120	Input	Detection input of cam SW1 to SW4 L: SW ON, H: SW OFF
30	Cam SW2	P121	Input	Detection of 14 cam positions (drum position) by applying the combination of SW1 to SW4
31	Cam SW3	P122	Input	Detection of 14 cam positions (drum position) by applying the combination of SW1 to SW4
32	Cam SW4	P123	Input	Detection of 14 cam positions (drum position) by applying the combination of SW1 to SW4

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC901 RH-iX2679AFZZ:System Control Micon(iX2679AF) (2/3)

Pin No.	Terminal Name	Port Name	Input/Output	Function
33	TRAY SW-A	P124	Input	Main tray OPEN completion detection switch input H: OPEN completion state when SW is OFF. L: Other state when SW is ON. This switch provides the CLOSE function when the tray lid is pressed.
34	TRAY SW-B	P125	Input	Main tray CLOSE completion detection switch input L: CLOSE completion state when SW is ON H: Other state when SW is OFF
35	TRAY SW-C	P126	Input	Sub-tray placing completion detection switch input L: Placing completion state when SW is ON H: Other state when SW is OFF.
36	TRAY SW-D	P127	Input	Sub-tray SET completion detection switch input H: SET completion state when SW is OFF L: Other state when SW is ON.
37	—	VDD	—	To be connected to ADD
38	MAIN CLK	X2	—	16 MHz crystal
39	MAIN CLK	X1	Input	16 MHz crystal
40	—	VSS	—	Ground potential To be connected to VSS
41*	Not used	XT2	—	SUB CLK not used To be opened
42	Not used	XT1	Input	SUB CLK not used To be connected to VSS
43	RESET	RESET	Input	Reset input
44	RX IN	INTP0	Input	Remote controller input
45	Power failure detection	INTP1	Input	Power failure detection input Power failure = L
46	NAME IN	INTP2	Input	TEXT input from external MD
47	DATA IN/OUT	INTP3	Input/Output	Data input/output from and to keyboard
48	CLK IN/OUT	INTP4	Input/Output	Clock input/output from and to keyboard
49	PROTECT	INTP5	Input	Power amplifier stage abnormality detection input Abnormal state = 1
50	DSTB	INTP6	Input	Strobe input from MD microcomputer Interruption input
51	—	AVDD	—	A/D converter analog power To be connected to VDD
52	—	AVREFO	Input	A/D converter reference voltage input Wiring separately from VDD
53	KEY0	AN10	Input	A/D input of key - 0
54	KEY1	AN11	Input	A/D input of key - 1
55	KEY2	AN12	Input	A/D input of key - 2
56	KEY3	AN13	Input	A/D input of key - 3
57	Spare	AN14	Input	To be connected to VSS
58	Initial setting	AN15	Input	Destination setting with A/D value
59	SPAN selection	P16	Input	Tuner span selection
60	VSM	AN17	Input	Input of electric field intensity in RDS ASPM state by using A/D value
61	—	AVSS	—	A/D converter ground potential To be connected to VSS
62	SD	P130	Input	SD input in case of TUNER AUTO SCAN
63	Illumination ON/ OFF switching	P131	Output	Illumination in ON state: H output Illumination in OFF state: L output
64	Not used	AVREF1	Input	D/A converter reference voltage input To be connected to VDD
65	232C-IN	RXD2	Input	Serial data input in UART mode Data operation from external personal computer through PC card
66	232C-OUT	TXD2	Output	Serial data output in UART mode Data sending from external personal computer through PC card
67	V. LOAD	P72	Output	Selection of 7.5V/5V line voltage supplied to MD H is set to set the 7.5V line only when MD is set to LOAD or EJECT mode.
68	M-DATA	SI1	Input	Serial data input from MD microcomputer
69	K-DATA	SO1	Output	Serial data output to MD microcomputer
70	DSCK	SCK1	Output	Serial clock output to MD microcomputer
71	MIC detection	P23	Input	MIC jack insertion detection input L: MIC connected, H: Not connected
72	RWC	P24	Output	READ/WRITE control output to CD DSP element
73	SQOUT	SI0	Input	Serial input of sub-code data Q from CD DSP

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC901 RH-iX2679AFZZ:System Control Micon(iX2679AF) (3/3)

Pin No.	Terminal Name	Port Name	Input/Output	Function
74	COIN	SO0	Output	Serial output of command data to CD DSP
75	CQCK	SCK0	Output	Serial clock output to CD DSP
76	RES	P80	Output	Reset output to CD DSP element
77	WRQ	P81	Input	Standby input of sub-code Q output
78	DRF	P82	Input	RF level detection input (DETECT RF)
79	SL+	P83	Output	Slide feed signal +
80	SL-	P84	Output	Slide feed signal -
81	PU IN	P85	Input	Pickup innermost periphery detection switch input Innermost periphery = L
82	MUTE	P86	Output	CD MUTE output ON state: H output, OFF state: L output
83	MIC MUTE	P87	Output	MIC mute output of AUDIO system ON state: H output, OFF state: L output
84	S. MUTE	P40	Output	System mute output of AUDIO system ON state: H output, OFF state: L output
85	L. MUTE	P41	Output	Line mute output of AUDIO system ON state: H output, OFF state: L output
86	RLY	P42	Output	Relay ON/OFF control ON state: H output, OFF state: L output
87	POWER	P43	Output	Power ON/OFF control ON state: H output, OFF state: L output
88	DIG._B	P44	Output	Control output of 74HC153
89	DIG._A	P45	Output	Control output of 74HC153
90	JOG._B	P46	Input	JOG dial input B
91	JOG._A	P47	Input	JOG dial input A
92	CCB-CE	P50	Output	Chip enable output to AUDIO/PLL/RDS element of CCB communication
93	CCB-DO	P51	Input	Serial data input from PLL/RDS element of CCB communication
94	CCB-DI	P52	Output	Serial data output to AUDIO/PLL/RDS element of CCB communication
95	CCB-CL	P53	Output	Serial clock output to AUDIO/PLL/RDS element of CCB communication
96	FAN MOTOR	P54	Output	Motor control for radiation fan H pulse is output periodically in the MD PLAY or REC PLAY mode.
97	P. DOWN	P55	Input	Power failure detection output to MD microcomputer
98*	Not used	P56	Output	Since this terminal is not used, it is open.
99	TUNER MUTE	P57	Output	TUNER MUTE control ON state: H output, OFF state: L output
100	—	VSS	—	Ground potential To be connected to VSS

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC901 RH-iX2679AFZZ:System Control Micon(iX2679AF)

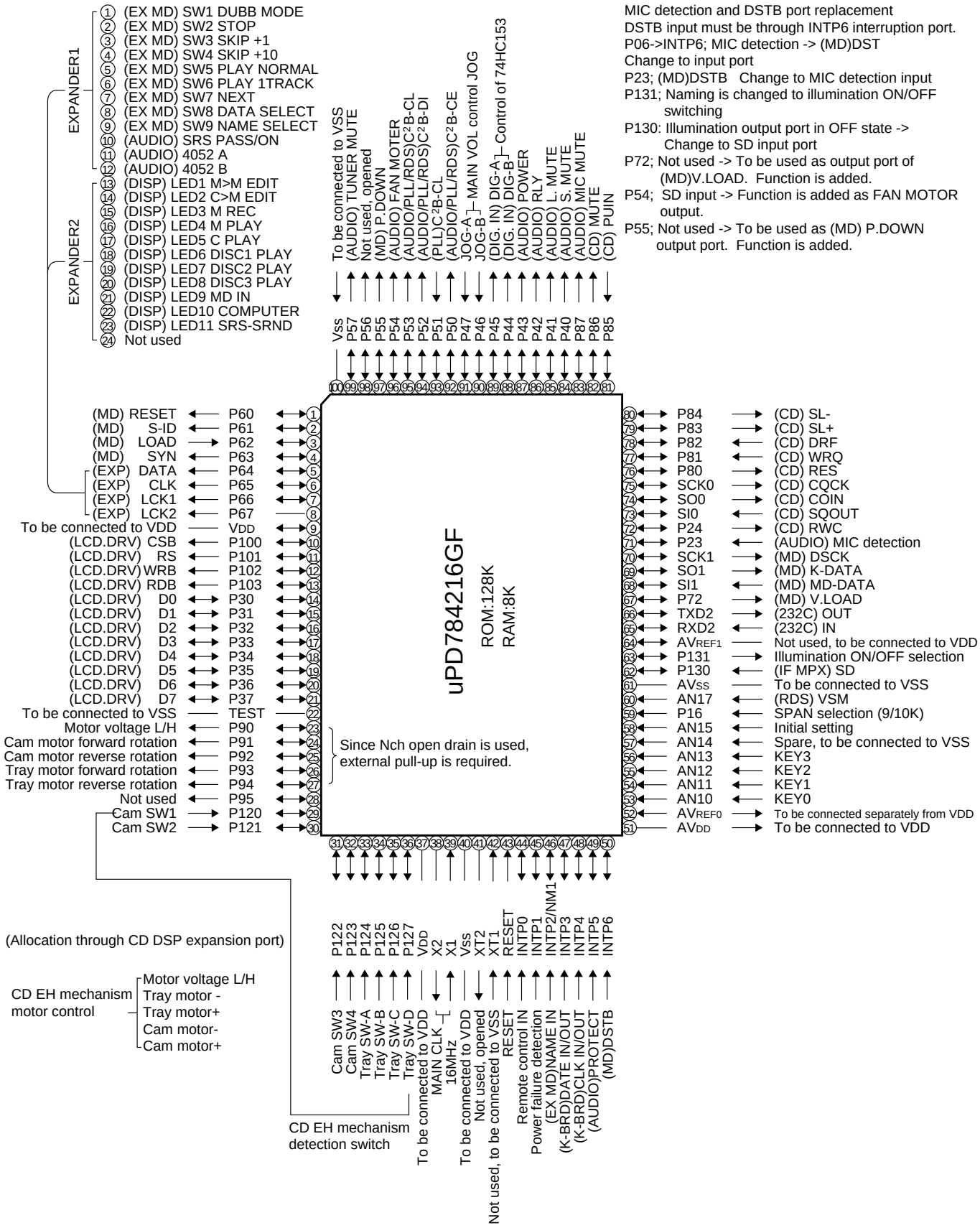

MIC detection and DSTB port replacement
DSTB input must be through INTP6 interruption port.
P06->INTP6; MIC detection -> (MD)DST
Change to input port
P23; (MD)DSTB Change to MIC detection input
P131; Naming is changed to illumination ON/OFF switching
P130: Illumination output port in OFF state -> Change to SD input port
P72; Not used -> To be used as output port of (MD)V.LOAD. Function is added.
P54; SD input -> Function is added as FAN MOTOR output.
P55; Not used -> To be used as (MD) P.DOWN output port. Function is added.
EXPANDER1
EXPANDER2
(1) (EX MD) SW1 DUBB MODE
(2) (EX MD) SW2 STOP
(3) (EX MD) SW3 SKIP +1
(4) (EX MD) SW4 SKIP +10
(5) (EX MD) SW5 PLAY NORMAL
(6) (EX MD) SW6 PLAY 1TRACK
(7) (EX MD) SW7 NEXT
(8) (EX MD) SW8 DATA SELECT
(9) (EX MD) SW9 NAME SELECT
(10) (AUDIO) SRS PASS/ON
(11) (AUDIO) 4052 A
(12) (AUDIO) 4052 B
(13) (DISP) LED1 M>M EDIT
(14) (DISP) LED2 C>M EDIT
(15) (DISP) LED3 M REC
(16) (DISP) LED4 M PLAY
(17) (DISP) LED5 C PLAY
(18) (DISP) LED6 DISC1 PLAY
(19) (DISP) LED7 DISC2 PLAY
(20) (DISP) LED8 DISC3 PLAY
(21) (DISP) LED9 MD IN
(22) (DISP) LED10 COMPUTER
(23) (DISP) LED11 SRS-SRND
(24) Not used
To be connected to VSS
(AUDIO) TUNER MUTE
Not used, opened
(MD) P.DOWN
(AUDIO) FAN MOTER
(AUDIO/PLL/RDS)C2B-CL
(AUDIO/PLL/RDS)C2B-DI
(AUDIO/PLL/RDS)C2B-CE
JOG-A
JOG-B
MAIN VOL control JOG
Control of 74HC153
(DIG. IN) DIG-A
(DIG. IN) DIG-B
(AUDIO) POWER
(AUDIO) RLY
(AUDIO) L. MUTE
(AUDIO) S. MUTE
(AUDIO) MIC MUTE
(CD) MUTE
(CD) PUIN
Vss P57 P56 P55 P54 P53 P52 P51 P50 P47 P46 P45 P44 P43 P42 P41 P40 P87 P86 P85
100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81
uPD784216GF
ROM:128K
RAM:8K
(MD) RESET P60 1
(MD) S-ID P61 2
(MD) LOAD P62 3
(MD) SYN P63 4
(EXP) DATA P64 5
(EXP) CLK P65 6
(EXP) LCK1 P66 7
(EXP) LCK2 P67 8
To be connected to VDD VDD 9
(LCD.DRV) CSB P100 10
(LCD.DRV) RS P101 11
(LCD.DRV) WRB P102 12
(LCD.DRV) RDB P103 13
(LCD.DRV) D0 P30 14
(LCD.DRV) D1 P31 15
(LCD.DRV) D2 P32 16
(LCD.DRV) D3 P33 17
(LCD.DRV) D4 P34 18
(LCD.DRV) D5 P35 19
(LCD.DRV) D6 P36 20
(LCD.DRV) D7 P37 21
To be connected to VSS TEST 22
Motor voltage L/H P90 23
Cam motor forward rotation P91 24
Cam motor reverse rotation P92 25
Tray motor forward rotation P93 26
Tray motor reverse rotation P94 27
Not used P95 28
Cam SW1 P120 29
Cam SW2 P121 30
Since Nch open drain is used, external pull-up is required.
80 P84 (CD) SL-
79 P83 (CD) SL+
78 P82 (CD) DRF
77 P81 (CD) WRQ
76 P80 (CD) RES
75 SCK0 (CD) CQCK
74 SO0 (CD) COIN
73 SI0 (CD) SQOUT
72 P24 (CD) RWC
71 P23 (AUDIO) MIC detection
70 SCK1 (MD) DSCK
69 SO1 (MD) K-DATA
68 SI1 (MD) MD-DATA
67 P72 (MD) V.LOAD
66 TXD2 (232C) OUT
65 RXD2 (232C) IN
64 AVREF1 Not used, to be connected to VDD
63 P131 Illumination ON/OFF selection
62 P130 (IF MPX) SD
61 AVSS To be connected to VSS
60 AN17 (RDS) VSM
59 P16 SPAN selection (9/10K)
58 AN15 Initial setting
57 AN14 Spare, to be connected to VSS
56 AN13 KEY3
55 AN12 KEY2
54 AN11 KEY1
53 AN10 KEY0
52 AVREF0 To be connected separately from VDD
51 AVDD To be connected to VDD
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
P122 P123 P124 P125 P126 P127 VDD X2 X1 Vss XT2 XT1 RESET INTP0 INTP1 INTP2/NM1 INTP3 INTP4 INTP5 INTP6
(Allocation through CD DSP expansion port)
CD EH mechanism motor control
Motor voltage L/H
Tray motor -
Tray motor+
Cam motor-
Cam motor+
Cam SW3
Cam SW4
Tray SW-A
Tray SW-B
Tray SW-C
Tray SW-D
To be connected to VDD
MAIN CLK
16MHz
To be connected to VDD
Not used, opened
Not used, to be connected to VSS
RESET
Remote control IN
Power failure detection
(EX MD)NAME IN
(K-BRD)DATE IN/OUT
(K-BRD)CLK IN/OUT
(AUDIO)PROTECT
(MD)DSTB
CD EH mechanism detection switch

Figure 84 BLOCK DIAGRAM OF IC

IC1101 VHiiR3R55//-1:RF Signal Processor (IR3R55)

Pin No.	Terminal Name	Function
1	RF1	RF signal input terminal 1 Input of RF signal output of pickup
2	RF2	RF signal input terminal 2 Input of RF signal output of pickup
3	RF3	RF signal input terminal 3 Input of RF signal output of pickup
4	RF4	RF signal input terminal 4 Input of RF signal output of pickup
5	REFI	Reference voltage amp. input terminal
6	REFO	Reference voltage amp. output terminal
7	RFADD	RF1 to 4 resistance addition output terminal
8	TCGI	Track cross detection signal amp. input terminal for groove
9	AIN	Servo signal amp. (focus servo system) inversion input terminal
10	BIN	Servo signal amp. (focus servo system) inversion input terminal
11	EIN	Servo signal amp. (tracking servo system) inversion input terminal
12	FIN	Servo signal amp. (tracking servo system) inversion input terminal
13	BIAS	Bias input terminal
14	AVCC	Analog section power terminal
15*	VSTBY	Logic signal output terminal (STBY signal inversion signal is output.)
16*	XDISC	Logic signal output terminal (DISC signal inversion signal is output.)
17*	XSGAIN	Logic signal output terminal (SGAIN signal inversion signal is output.)
18	AGND	Analog section GND terminal
19	DGND	Digital section GND terminal
20	DTEMP	Chip temperature detection terminal
21	LATCH	Latch signal input terminal
22	CLOCK	Clock signal input terminal
23	DATA	Serial data input terminal
24	DVCC	Digital section power terminal
25	FOUT	Servo signal amp. (tracking servo system) output terminal
26	EOUT	Servo signal amp. (tracking servo system) output terminal
27	BOUT	Servo signal amp. (focus servo system) output terminal
28	AOUT	Servo signal amp. (focus servo system) output terminal
29	TCGO	Track cross detection signal amp. output terminal for groove
30	WBO	Comparator output terminal for ADIP signal binary-coding
31	22KI	Comparator input terminal for ADIP signal binary-coding
32	22KO	ADIP signal HPF amp. output terminal
33	ADLPFO	ADIP signal LPF amp. output terminal
34*	NC	NC
35	ADIPO	ADIP signal preamp. output terminal
36	ADIPI	ADIP signal AGC amp. output terminal
37	ADAGC	ADIP signal AGC smoothing capacitor connection terminal
38	ADAGI	ADIP signal AGC amp. input terminal
39	RF2-1	RF1 and RF2 difference signal
40	EFMO	RF signal preamp. output terminal
41*	WFMI	RF signal AGC amp. output terminal
42	AVCC	Analog section power terminal
43	AGND	Analog section GND terminal
44	EFMAGC	EFM signal AGC smoothing capacitor connection terminal
45	EFMAGI	EFM signal AGC amp. output terminal
46*	ATTR	Pins 47 and 48 output signal attenuation terminal
47	GOUT	Output of signal of RF1+RF2-RF3-RF4 for groove
48	POUT	Rf1 to 4 resistance addition output for pit

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1201 VHiLR37648/-1:ENDEC (LR37648) (1/2)

Pin No.	Terminal Name	Input/Output	Function
1*	EFMMON	Output	EFM monitor output
2	AVCC	—	Analog power
3	EFMI	Input	EFM signal input from RF amp.
4	AGND	—	Analog GND
5	AIN	Input	Focus error signal A
6	EIN	Input	Tracking error signal E
7	TCG	Input	Track cross signal
8	BIN	Input	Focus error signal B
9	FIN	Input	Tracking error signal F
10*	VBAT	Input	Power voltage detection signal for constant voltage servo
11	WBI	Input	ADIP wobble signal
12	VDD1	—	Digital power
13	DGND	—	Digital GND
14,15	TEST0,TEST1	Input	Input for test. Connection to GND in case of normal use
16	TEST2	Input	Input for test. Endecode/servo mode and ATRAC mode selection
17	X176KO	Output	Clock output. f=176.4 kHz (4fs)
18	FODRF	Output	Focus servo forward output. PWM
19	FODRR	Output	Focus servo reverse output. PWM
20	TRDRF	Output	Tracking servo forward output. PWM
21	LATCH	Output	Tracking servo reverse output. PWM
22	CLOCK	Output	Slide servo forward output. PWM
23	DATA	Output	Slide servo reverse output. PWM
24	DVCC	Output	Spindle servo forward output or spindle servo output. PWM
25	FOUT	Output	Spindle servo reverse output or spindle rotation (forward/reverse)selection
26	EOUT	Output	Address output to external D-RAM. ADR3
27	BOUT	Output	Address output to external D-RAM. ADR2
28	AOUT	Output	Address output to external D-RAM. ADR1
29	TCGO	Output	Address output to external D-RAM. ADR0 (LSB)
30*	WBO	Output	Address output to external D-RAM. ADR10 (MSB)
31	22KI	—	Power supply for DRAM interface
32	22KO	Output	Address output to external D-RAM. ADR4
33	ADLPFO	Output	Address output to external D-RAM. ADR5
34	NC	Output	Address output to external D-RAM. ADR6
35	ADIPO	Output	Address output to external D-RAM. ADR7
36	ADIPI	Output	Address output to external D-RAM. ADR8
37	ADAGC	Output	Data output enable signal output to external D-RAM
38	ADAGI	—	Digital GND
39	RF2-1	Output	Column address strobe signal output to external D-RAM
40	EFMO	In/Output	Data input/output from and to external D-RAM. D2
41	WFMI	In/Output	Data input/output from and to external D-RAM. D3 (MSB)
42	AVCC	Output	Data input/output from and to external D-RAM. ADR9
43	AGND	Output	Low address strobe signal output to external D-RAM
44	EFMAGC	Output	Data write enable signal output to external D-RAM
45	EFMAGI	In/Output	Data input/output from and to external D-RAM. D1
46	ATTR	In/Output	Data input/output from and to external D-RAM. D0 (LSB)
47*	GOUT	Output	Track cross signal
48*	POUT	Output	ADIP CRC error flag monitor output
49*	PLCK	Output	EFM PLL clock output in playback mode
50	EFM0	Output	EFM signal output in record mode. C1F (C1 error flag) monitor output in playback mode
51*	X700KO	Output	Clock output. f = 705.6 kHz. Clock output is not performed when RSTX = 0.
52*	EXPORT0	Output	Microcomputer extension output port 0
53*	EXPORT1	Output	Microcomputer extension output port 1

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1201 VHiLR37648/-1:ENDEC (LR37648) (2/2)

Pin No.	Terminal Name	Input/Output	Function
54	TESO1	Output	PLLLR. Microcomputer extension output port 2 in case of selection
55	TESO3	In/Output	PLLOSC. Microcomputer extension output port 3 in case of selection
56	TEST4	In/Output	EXTCLK. Microcomputer extension output port 4 in case of selection
57	CDDATA	In/Output	High speed dubbing CD data input. Microcomputer extension output port 5 in case of selection
58	CDLRCK	In/Output	High speed dubbing CD LR data input. Microcomputer extension output port 6 in case of selection
59	CDBCLK	In/Output	High speed dubbing CD bit data input. Microcomputer extension output port 7 in case of selection
60	VXI	Input	Vari-pitch PLL clock input
61	VPO	Output	Vari-pitch PLL phase error output
62	VDD1	—	Digital power
63	DGND	—	Digital GND
64	XI	Input	Oscillation circuit input. 33.8688 MHz
65	XO	Output	Oscillation circuit input. 33.8688 MHz
66	DIN	Input	Digital input signal
67	DOUT	Output	Digital output signal
68	VDD3	—	Power for internal PLL
69	DGND	—	Digital GND
70	LRCK	Output	Music data Lch/Rch selection output
71	BLCK	Output	Music data shift clock
72	DFCK	Output	AD/DA converter digital filter clock. 256 Fs
73	ADDATA	Input	Audio data input
74	DADATA	Output	Audio data output
75*	FEMON	Output	Focus error signal monitor output
76*	TOTMON	Output	Total signal monitor output
77*	TEMON	Output	Tracking error signal monitor output
78*	SBCK	Input	DIN subcode read clock. EIAJ CP-309 Format
79*	SBO	Output	DIN subcode serial data. EIAJ CP-309 Format
80*	SBSY	Output	DIN subcode block sync signal. EIAJ CP-309 Format
81	SFSY	Output	DIN subcode frame sync signal. EIAJ CP-309 Format
82	FOK	Output	Focus OK detection signal. "0" : Focus OK
83	SENSE	Output	Servo status detection signal. "1": Auto-move, auto-jump, auto-focus retraction
84	COUT	Output	Track cross signal output
85	MCCK	Output	Microcomputer clock output. Clock output is performed also when RSTX = 0.
86	DINTX	Output	System controller interface interruption request output terminal
87	VDD1	—	Digital power
88	DGND	—	Digital GND
89	RSTX	Input	Chip reset input. "L": Reset
90	SYD0	In/Output	System controller interface data bus terminal (LSB)
91~96	SYD1~SYD6	In/Output	System controller interface data bus terminal
97	SYD7	In/Output	System controller interface data bus terminal (MSB)
98	SYWRX	Input	System controller interface register writing pulse input
99	SYRDX	Input	System controller register read pulse input
100	SYRS	Input	System controller interface register selection input

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1401 RX-iX0227AWZZ:MD System Micon Control (IX0227AW) (1/2)

Pin No.	Terminal Name	Input/Output	Function
1*	P96/ANEX1	Output	Input/Output it port P96
2*	P95/ANEX0	Output	Input/Output it port P96
3	P94/DA1	Output	LDVAR (laser power adjustment output)
4*	P93/DA0	Output	ADJS (for automatic adjustment step check)
5*	P92/TB2IN	Output	Input/Output it port P92
6	P91/TB1IN	Input	LD SW CK input (interruption input only in single state)
7	P90/TB0IN	Input	ERR input (monitor PLL UNLOCK)
8	BYTE	Input	GND
9	CNVss	Input	GND
10*	P87/XCIN	Output	ST-ID Output
11*	P86/XOUT	Output	MD search output
12	RESET	Input	RESETInput
13*	XOUT	—	Clock output
14	Vss	—	GND
15	XIN	Input	EXTAL (8.4672 MHz)
16	Vcc	—	+ 3.15V
17	P85/NMI	Input	Input/Output it port P85
18	P84/INT2	Input	DINT (interruption input from MD LSI)
19	P83/INT1	Input	DSENSE (servo sense input from MD LSI)
20	P82/INT0	Input	ST-ID Input (MD-ON)
21	P81/TA4IN	Input	CD search input (syncro REC suspension input from MD LSI)
22	P80/TA4OUT	Output	MD RSW Output
23*	P77/TA3IN	Input	FSW1 (SW power frequency selection)
24	P76/TA3OUT	Output	Vari-pitch correspondence given (H)/not given (L)
25	P75/TA2IN	Input	P-DOWN (power failure detection)
26	P74/TA2OUT	Output	HDON (magnetic head current ON/OFF output)
27	P73/TA1IN	Output	LD+ (loading motor + control output)
28	P72/TA1OUT	Output	LD- (loading motor + control output)
29	P71/TA0IN	Input	CIN (track count signal input)
30*	P70/TA0OUT	Input	INN SW (inner SW detection input)
31	P67/TXD1	Output	R-DATA
32	P66/RXD1	Output	R-LATCH
33	P65/CLK1	Output	R-CLK
34	P64/CTS1/RTS1/ CTS0/CLKS1	Output	DSTB (system controller communication enable and communication beingexecuted)
35	P63/TXD0	Output	MD DATA (MD Data Output)
36	P62/RXD0	Input	K DATA (system controller data input)
37	P61/CLK0	Input	DSCK (system controller communication clock input)
38	P60/CTS0/RTS0	Input	4M/16M DRAM selection input
39	P57/RDY/CLKOUT	Output	R/P output (REC/PLAY selection)
40	P56/ALE	Input	FOK (focus servo status monitor input)
41*	WFMI	In/Output	Input/Output it port P55
42	AVCC	Output	S2 Ouput
43	AGND	Output	S1 Output
44	EFMAGC	Output	SYRS (MD-LSI register selection signal output)
45	EFMAGI	Output	SYRD (MD-LSI read signal output)
46	ATTR	Output	SYWR (MD-LSI right signal output)
47	GOUT	In/Output	SYS D7 (data bus 7)
48	POUT	In/Output	SYS D6 (data bus 6)
49	PLCK	In/Output	SYS D5 (data bus 5)
50	EFM0	In/Output	SYS D4 (data bus 4)
51	X700KO	In/Output	SYS D3 (data bus 3)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1401 RX-iX0227AWZZ:MD System Micon Control (IX0227AW) (2/2)

Pin No.	Terminal Name	Input/Output	Function
52	P42/A18	In/Output	SYS D2 (data bus 2)
53	P41/A17	In/Output	SYS D1 (data bus 1)
54	P40/A16	In/Output	SYS D0 (data bus 0)
55*	P37/A15	Output	Input/Output it port P37
56*	P36/A14	Output	Input/Output it port P36
57*	P35/A13	Output	Input/Output it port P35
58	P34/A12	Output	EEPRO (EEPROM protection cancel)
59	P33/A11	Output	EPCS (EEPROM chip selector output)
60	P32/A10	In/Output	EEPD (EEPROM sirial data output)
61	P31A9	Output	EEPK (EEPROM sirial colck output)
62	Vcc	Input	+ 3.15V
63*	P30/A8	Output	Input/Output it port P30
64	Vss	—	GND
65	P27/A7	Output	L3 DATA (soft serial communication, 2 modes provided, LSB fast)
66	P26/A6	Output	L3 MODE (soft serial communication, 2 modes provided, LSB fast)
67	P25/A5	Output	L3 CLK (soft serial communication, 2 modes provided, LSB fast)
68*	P24/A4	Output	Input/Output it port P24
69*	P23/A3	Output	Input/Output it port P23
70	P22/A2	Output	PCNT0 output
71*	P21/A1	Output	Input/Output it port
72	P20/A0	Output	LDON output (H: ON)
73	P17/D15	Output	ANLPTR output
74*	P16/D14	Output	ADPON output (for CK)
75*	P15/D13	Output	DAPON output (for CK)
76*	P14/D12	Output	DFS0 output
77*	P13/D11	Output	DFS1 output
78*	P12/D10	Output	DIG EX output (for CK)
79*	P11/D9	Output	DIG CD output (for CK)
80	P10/D8	Output	XRST (system reset output)
81*	P07/D7	Output	AD MUTE output (for CK)
82*	P06/D6	Output	EMPHA output (for CK)
83*	P05/D5	Output	DA MUTE output (for CK)
84*	P04/D4	Output	MUTE output
85*	P03/D3	Output	DOUTM output (for CK)
86	P02/D2	Input	TEST2 (special mode selection 2)
87	P01/D1	Input	TEST1 (special mode selection 1)
88	P00/D0	Input	TEST0 (special mode selection 0)
89	P107/AN7/KI3	Input	AVCK3 (special mode monitor input)
90	P106/AN6/KI2	Input	AVCK2 (AD/DA section 3.1V monitor input)
91	P105/AN5/KI1	Input	AVCK1 (DOUT section 5V monitor input)
92	P104/AN4/KI0	Input	DTEMP (temperature detection input)
93	P103/AN3	Input	MINF (disc type/REC input)
94	P102/AN2	Input	TEST K1 (test key input 1)
95	P101/AN1	Input	TEST K2 (test key input 2)
96	AVss	—	GND
97	P100/AN0	Input	HINF (mechanism position/HEAD position)
98	V_{REF}	—	+ 3.15V
99	AVcc	—	+ 3.15V
100	P97/AD_{TRG}	Input	Input/Output it port

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1101 VHiiR3R55//-1:RF Signal Processor (IR3R55)

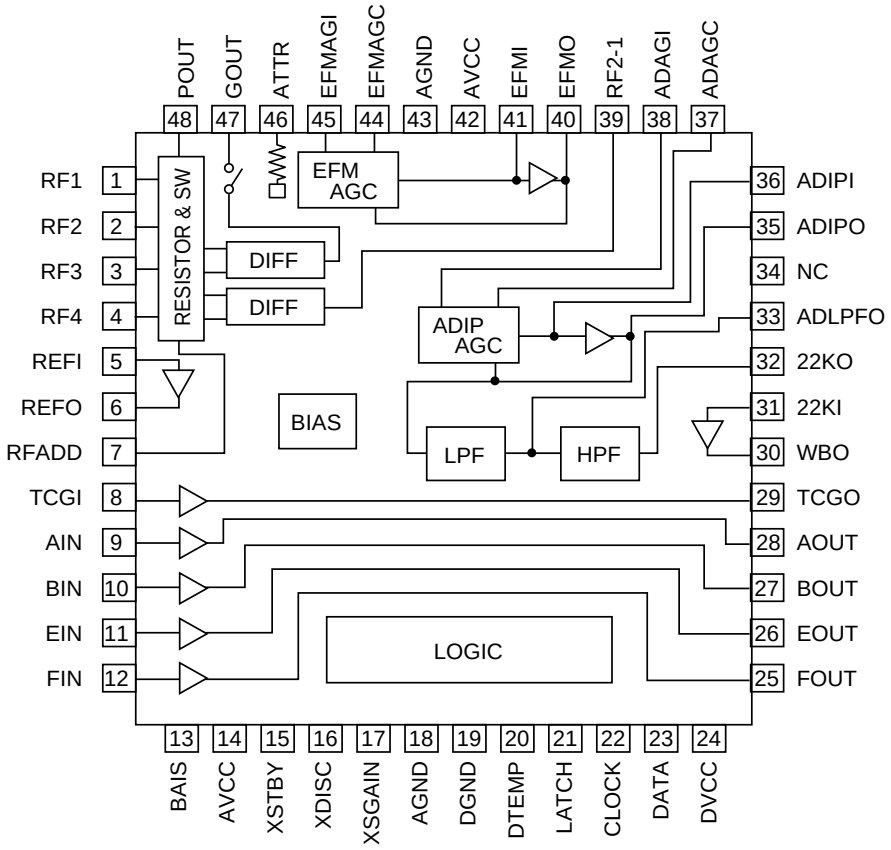


Figure 90-1 BLOCK DIAGRAM OF IC

IC1201 VHiLR37648/-1:ENDEC (LR37648)

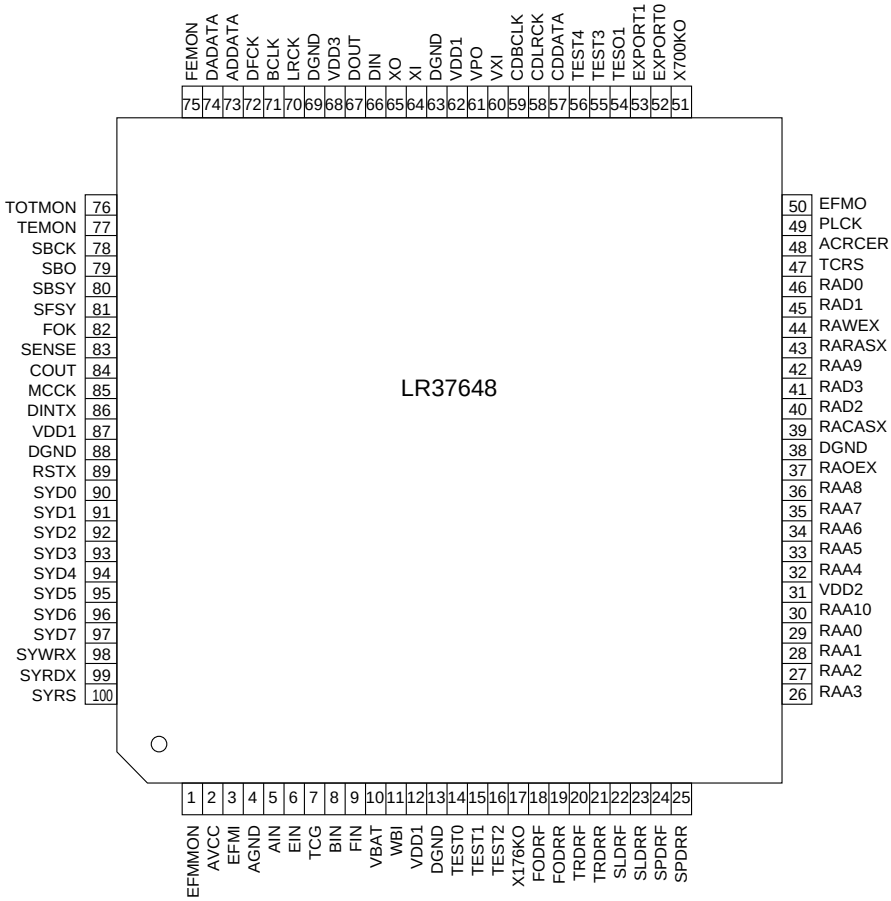


Figure 90-2 BLOCK DIAGRAM OF IC

SHARP PARTS GUIDE

MODEL MD-X8

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK..... Ceramic type
VCT ..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN..... Cylindrical type (without lead wire)
VC • • TV..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN..... Cylindrical type (without lead wire)
VR • • TV..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

MD-X8

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
INTEGRATED CIRCUITS				
IC1	VHILA9241M/-1	J	AS	Servo Amp.,LA9241M
IC2	VHILC78623D-1	J	AY	Servo/Signal Control,LC78623D
IC5	VHIM56748FP-1	J	AR	Focus/Tracking/Spin/Slide Driver,M56748FP
IC91	VHITA7291S/-1	J	AH	Tray Motor Driver, TA7291S
IC92	VHITA7291S/-1	J	AH	Main Cam Motor Driver, TA7291S
IC201	VHISTK40705-1	J	BA	Power Amp.,STK40705
IC302	VHILC72131/-1	J	AP	PLL Controller LC72131
IC303	VHILA1832//-1	J	AR	FM IF Det./FM Mpx./ AM IF, LA1832
IC440	VHINJM4558D-1	J	AH	Input Selector,NJM4558D
IC451	VHISRS5250S-1	J	BL	SRS,SRS5250S
IC501	VHILC75396E-1	J	AT	Audio Processor,LC75396E
IC511	VHIBU4052BC-1	J	AH	Input Selector,BU4052BC
IC552	VHINJM4565D-1	J	AC	Mic Amp.,NJM4565D
IC601	VHINJM4558D-1	J	AH	Mic Amp.,NJM4558D
IC602~604	VHGPC910///-1	J	AL	PC Controll,PC910
IC605	VHITC7WU04F-1	J	AD	PC Controll,TC7WU04F
IC751~753	VHIBA13058/-1	J		LCD Amp.,BA13058
IC771	VHIBU2092F/-1	J	AM	Input Selector,BU2092F
IC802	VHINJM431L/-1	J	AE	Voltage Regulator,NJM431L
IC901	RH-IX2679AFZZ	J	BH	System Control Micon,IX2679AF
IC902	VHIBU2092F/-1	J	AM	Input Selector,BU2092F
IC903	VHIPST9140/-1	J	AG	Reset,PST9140
IC904	VHI74HC153P-1	J	AH	Multiplexer,74HC153P
IC905	VHI74HCU04/-1	J	AF	Multiplexer,74HCU04
IC1101	VHIIR3R55//-1	J	AQ	RF Signal Processor,IR3R55
IC1201	VHILR37648/-1	J	BD	ENDEC,LR37648
IC1202	RH-IX2474AFZZ	J	BF	4Mbit D-RAM,IX2474AF
IC1251	VHI74ACT02F-1	J	AF	Head Driver,74ACT02F
IC1401	RH-IX0227AWZZ	J	BF	MD System Micon Control, IX0227AW
IC1402	VHIS29294A/-1	J	AH	E^2PROM,S29294A
IC1601	VHIM56758FP-1	J	AM	5-CH Motor Driver,M56758FP
IC1701	VHIUDA1340/-1	J	BA	A/D,D/A Converter,UDA1340
IC1801	VHIXC62EP32-1	J	AE	Switching Regulator,XC62EP32
IC1802	VHINJM431U/-1	J	AE	Regulator,NJM431U
IC1906	VHITC7ST08F-1	J	AE	And Gate,TC7ST08F
IC1907	VHITC9246F/-1	J	AM	Clock Generator,TC9246F
IC1916	VHI74VHC08FT1	J	AF	And Gate,74VHC08FT
IC1990	VHI74AC04FS-1	J	AF	Invertor,74AC04FS
TRANSISTORS				
Q1	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q81	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q201	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q251,252	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q253	VS2SB1238R/-1	J	AD	Silicon,PNP,2SB1238 R
Q260	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q271	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q272	VS2SA562-Y/-1	J	AC	Silicon,PNP,2SA562 Y
Q273	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q274	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q297,298	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q301	VS2SC380-O/-1	J	AC	Silicon,NPN,2SC380 O
Q353,354	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q360	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q361	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q371	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q421	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q423,424	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q461	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
Q465,466	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q467	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q468,469	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q501,502	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q541,542	VSDTC363TS/-1	J	AC	Digital,NPN,DTC363 TS
Q551	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q553	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q601	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q603	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q702	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q811	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q820	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q821	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q830	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q831	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q840	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
Q841	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q850	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q851	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q860	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q861	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q862	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q863	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q871	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q880	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q881	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q901~904	VS2SC1740SR-1	J	AB	Silicon,NPN,2SC1740 SR
Q910	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
Q998	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q1251,1252	VS2SK2909//-1	J	AE	FET,2SK2909
Q1253,1254	VS2SK1473//-1	J	AF	FET,2SK1473
Q1401	VSRN2404///-1	J	AC	Digital,NPN,RN2404
Q1402	VSRNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1403	VSRN2404///-1	J	AC	Digital,NPN,RN2404
Q1404	VSRNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1451	VSRNC1407//-1	J	AC	Digital,NPN,RNC1407
Q1601	VS2SA1314C/-1	J	AD	Silicon,PNP,2SA1314 C
Q1701	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q1801	VS2SA1314C/-1	J	AD	Silicon,PNP,2SA1314 C
Q1802,1803	VSRN1406///-1	J	AB	Digital,NPN,RN1406
Q1804	VS2SA1162G/-1	J	AB	Silicon,PNP,2SA1162 G
Q1806	VSRNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1807	VS2SA1314C/-1	J	AD	Silicon,PNP,2SA1314 C
Q1820	VS2SA1162G/-1	J	AB	Silicon,PNP,2SA1162 G
Q1821,1822	VSRNC1407//-1	J	AC	Digital,NPN,RNC1407
DIODES				
D2	VHD1SS133//-1	J	AA	Silicon,1SS133
D3~5	VHDRL104A//-1	J	AB	Silicon,RL104A
D8,9	VHD1SS133//-1	J	AA	Silicon,1SS133
D201~204	VHD1SS133//-1	J	AA	Silicon,1SS133
D260,261	VHD1SS133//-1	J	AA	Silicon,1SS133
D270~272	VHD1SS133//-1	J	AA	Silicon,1SS133
D301~304	VHD1SS133//-1	J	AA	Silicon,1SS133
D351~353	VHD1SS133//-1	J	AA	Silicon,1SS133
D421,422	VHD1SS133//-1	J	AA	Silicon,1SS133
D557	VHD1SS133//-1	J	AA	Silicon,1SS133
D615	VHD1SS133//-1	J	AA	Silicon,1SS133
⚠ D801	VHDS4VB20//-1	J	AG	Rectifier,S4VB20
⚠ D802~805	VHDRL104A//-1	J	AB	Silicon,RL104A
⚠ D812~815	VHDRL104A//-1	J	AB	Silicon,RL104A
D820	VHDRL104A//-1	J	AB	Silicon,RL104A
D866	VHDRL104A//-1	J	AB	Silicon,RL104A
D871,872	VHD1SS133//-1	J	AA	Silicon,1SS133
D902	VHD1SS133//-1	J	AA	Silicon,1SS133
D905	VHD1SS133//-1	J	AA	Silicon,1SS133
D1251,1252	VHDSB0209CP-1	J	AC	Silicon,SB0209CP
D1990	VHD1SS372//-1	J	AD	Silicon,1SS372
LED705	VHPR342VRC7-1	J	AD	LED,Red,R342VRC7
LED706	VHPSLR325MG-1	J	AE	LED,Green,SLR325MG
LED721	VHPSLR325MG-1	J	AE	LED,Green,SLR325MG
LED771,772	VHPR342MGF7-1	J	AD	LED,Green,R342MGF7
LED773~775	VHPSLR325MG-1	J	AE	LED,Green,SLR325MG
ZD81	VHEUZ5R6BSB-1	J	AA	Zener,5.6V,UZ5.6BSB
ZD241	VHEUZ110BSC-1	J	AA	Zener,11V,UZ11BSC
ZD271	VHEUZ6R2BSB-1	J	AA	Zener,6.2V,UZ6.2BSB
ZD351	VHEUZ5R1BSB-1	J	AA	Zener,5.1V,UZ5.1BSB
ZD352	VHEMTZJ3R9B-1	J	AC	Zener,3.9V,MTZJ3.9B
ZD401,402	VHEUZ7R5BSB-1	J	AC	Zener,7.5V,UZ7.5BSB
ZD601	VHEUZ5R1BSB-1	J	AA	Zener,5.1V,UZ5.1BSB
ZD810	VHEMTZJ6R2C-1	J	AC	Zener,6.2V,MTZJ6.2C
ZD820	VHEUZ110BSA-1	J	AC	Zener,10V,UZ11BSA
ZD840	VHEUZ130BSA-1	J	AC	Zener,13V,UZ13BSA
ZD851	VHEUZ6R8BSB-1	J	AC	Zener,6.8V,UZ6.8BSB
ZD861	VHEUZ130CSA-1	J		Zener,13V,UZ13CSA
ZD901	VHEUZ5R1BSB-1	J	AA	Zener,5.1V,UZ5.1BSB
FILTERS				
CF302	RFILF0124AFZZ	J	AD	FM IF,10.7 MHz
CF351	RFILF0003AWZZ	J	AK	FM IF
CF352	RFILA0009AWZZ	J	AE	AM IF
TRANSFORMERS				
T302	RCILZ0014AWZZ	J	AL	AM Antenna
T351	RCILI0011AWZZ	J	AD	AM IF

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
⚠T801	RTRNP0169AWZZ	J	BT	Power

COILS

L1	VP-XHR82K0000	J	AC	0.82 µH
L203,204	RCILZ0254AFZZ	J	AE	3 µH,Trap
L342	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L351,352	VP-DH101K0000	J	AB	100 µH,Choke
L353	VP-DH102K0000	J	AB	1 mH,Choke
L401,402	VP-DH2R2M0000	J	AB	2.2 µH,Choke
L410~413	VP-DH2R2M0000	J	AB	2.2 µH,Choke
L421~423	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L601	VP-DH2R2M0000	J	AB	2.2 µH,Choke
L631	VP-DH2R2M0000	J	AB	2.2 µH,Choke
L751,752	VP-DH4R7K0000	J	AB	4.7 µH,Antenna Choke
⚠L801	RCILZ0012AWZZ	J	AL	Line Filter
L902~906	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L910	VP-DH101K0000	J	AB	100 µH,Choke
L1101	VPBNN100K0000	J	AC	10 µH
L1102	VPBNNR47K0000	J	AC	0.47 µH
L1201	VPBNNR47K0000	J	AC	0.47 µH
L1203	VPBNN4R7K0000	J	AC	4.7 µH
L1251	VP-NM470K0000	J	AC	47 µH
L1601	RCILZ0016AWZZ	J	AD	1 µH
L1701,1702	VPBNN100K0000	J	AC	10 µH
L1950	RCILZ0016AWZZ	J	AD	1 µH
LR190	VPBNN4R7K0000	J	AC	4.7 µH

VARIABLE RESISTORS

VR351	RVR-M0999AFZZ	J	AB	10 kohm (B),Semi-VR [FM Mute Level]
VR601	RVR-B0009AWZZ	J	AM	20 kohm (B),Semi-VR [Mic Volume]
VR602	RVR-B0009AWZZ	J	AM	20 kohm (B),Semi-VR [Input Level]

VIBRATORS

X351	RCRM-0028AWZZ	J	AE	Ceramic,10.7 MHz
X352	RCRSP0002AWZZ	J	AH	Crystal,4.5 MHz
X901	RCRSB0016AWZZ	J	AK	Crystal,8 MHz
XL1	RCRSP0005AWZZ	J	AF	Crystal,16.934 MHz
XL1201	RCRSC0001AWZZ	J	AL	Crystal,33.8688 MHz

CAPACITORS

C2	RC-EZY476AF1A	J	AB	47 µF,10V,Electrolytic
C3	RC-EZY104AF1H	J	AB	0.1 µF,50V,Electrolytic
C4	VCKYMN1HB102K	J	AA	0.001 µF,50V
C5,6	VCTYPA1CX333K	J	AA	0.033 µF,16V
C7	RC-EZY104AF1H	J	AB	0.1 µF,50V,Electrolytic
C8	VCTYPA1CX683K	J	AA	0.068 µF,16V
C9	VCTYPA1CX473K	J	AA	0.047 µF,16V
C10	VCKYMN1HB181K	J	AA	180 pF,50V
C11	VCTYPA1CX104K	J	AB	0.1 µF,16V
C12	VCKYMN1HB331K	J	AA	330 pF,50V
C13	VCTYPA1CX104K	J	AB	0.1 µF,16V
C14	VCTYMN1CY103K	J	AA	0.01 µF,16V
C15	VCTYMN1CX472K	J	AA	0.0047 µF,16V
C16	VCKYMN1HB102K	J	AA	0.001 µF,50V
C17	RC-EZY474AF1H	J	AB	0.47 µF,50V,Electrolytic
C18	RC-EZY105AF1H	J	AB	1 µF,50V,Electrolytic
C19	RC-EZY476AF1A	J	AB	47 µF,10V,Electrolytic
C20	VCTYMN1CX332K	J	AA	0.0033 µF,16V
C21	RC-EZY105AF1H	J	AB	1 µF,50V,Electrolytic
C22	VCTYMN1CY103K	J	AA	0.01 µF,16V
C24	RC-EZY105AF1H	J	AB	1 µF,50V,Electrolytic
C25	VCTYMN1CY103K	J	AA	0.01 µF,16V
C30	VCCSMN1HL2R2C	J	AB	2.2 pF,50V
C31	VCTYMN1CX272K	J	AA	0.0027 µF,16V
C32	VCCSMN1HL270J	J	AA	27 pF,50V
C33	VCKYMN1HB102K	J	AA	0.001 µF,50V
C34	VCTYPA1CX333K	J	AA	0.033 µF,16V
C35	RC-EZY104AF1H	J	AB	0.1 µF,50V,Electrolytic
C37	RC-EZY227AF0J	J	AB	220 µF,6.3V,Electrolytic
C38	VCTYMN1CY103K	J	AA	0.01 µF,16V
C39	RC-EZY474AF1H	J	AB	0.47 µF,50V,Electrolytic
C40	RC-EZY334AF1H	J	AB	0.33 µF,50V,Electrolytic
C41,42	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C43	RC-EZY337AF1J	J		330 µF,63V,Electrolytic
C44	RC-EZY107AF1A	J	AB	100 µF,10V,Electrolytic
C45	RC-EZY475AF1E	J	AB	4.7 µF,25V,Electrolytic
C46	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C50	VCTYPA1CX104K	J	AB	0.1 µF,16V
C51	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C52	RC-EZY107AF1A	J	AB	100 µF,10V,Electrolytic
C53	VCKYPA1HB221K	J	AA	220 pF,50V
C54~58	VCKYMN1HB101K	J	AA	100 pF,50V
C59	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C60	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C61	VCCCMN1HH120J	J	AA	12 pF (CH),50V
C62	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C67,68	RC-EZY106AF1C	J	AB	10 µF,16V,Electrolytic
C69,70	VCKYMN1HB102K	J	AA	0.001 µF,50V
C81	RC-EZY107AF1A	J	AB	100 µF,10V,Electrolytic
C82,83	RC-EZY476AF1C	J	AB	47 µF,16V,Electrolytic
C84	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C85	VCTYPA1HF104Z	J	AB	0.1 µF,50V
C86,87	VCKYMN1HB101K	J	AA	100 pF,50V
C91	RC-EZY476AF1C	J	AB	47 µF,16V,Electrolytic
C92	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C93	RC-EZY476AF1C	J	AB	47 µF,16V,Electrolytic
C94	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C95	VCTYPA1HF104Z	J	AB	0.1 µF,50V
C96,97	VCKYMN1HB101K	J	AA	100 pF,50V
C203,204	VCCSPA1HL471J	J	AA	470 pF,50V
C205,206	VCCSPA1HL470J	J	AA	47 pF,50V
C207,208	VCCSBT1HL150J	J	AA	15 pF,50V
C209,210	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C215	RC-GZA107AF1V	J	AB	100 µF,35V,Electrolytic
C217,218	VCQYKA1HM104K	J	AB	0.1 µF,50V,Mylar
C221,222	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C223	RC-GZA107AF1V	J	AB	100 µF,35V,Electrolytic
C237,238	RC-EZ1632AFZZ	J	AL	4700 µF,50V,Electrolytic
C240	RC-EZ0025AWZZ	J	AE	100 µF,50V,Electrolytic
C241	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C242	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C250,251	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C261,262	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C271,272	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C297	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C301	VCKYMN1HB102K	J	AA	0.001 µF,50V
C302	VCKYBT1HB102K	J	AA	0.001 µF,50V
C330	VCCUMN1HJ6R8D	J	AB	6.8 pF (UJ),50V
C331	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C332,333	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C334	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C336	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C338	VCKYBT1HB102K	J	AA	0.001 µF,50V
C340	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C341,342	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C343	VCCSMN1HL330J	J	AA	33 pF,50V
C345~347	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C348	VCTYMN1CY103K	J	AA	0.01 µF,16V
C349~351	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C352	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C353,354	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C355	VCCSMN1HL220J	J	AA	22 pF,50V
C356	VCKYMN1HB102K	J	AA	0.001 µF,50V
C357	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C358	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C361	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C362	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C363	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C364	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C365	VCTYPA1CX223K	J	AA	0.022 µF,16V
C366	VCKYMN1HB102K	J	AA	0.001 µF,50V
C367,368	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C370~372	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C373,374	VCTYPA1CX183K	J	AA	0.018 µF,16V
C375	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C376	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C380	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C381	VCCCMN1HH120J	J	AA	12 pF (CH),50V
C382	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C383	VCKYMN1HB151K	J	AA	150 pF,50V
C384	VCKYMN1HB102K	J	AA	0.001 µF,50V
C385	VCTYMN1CY103K	J	AA	0.01 µF,16V
C386	VCKYMN1HB331K	J	AA	330 pF,50V
C387	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C389,390	VCTYMN1CX562K	J	AA	0.0056 µF,16V
C391	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C392	VCKYMN1HB102K	J	AA	0.001 µF,50V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C393	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C394	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C395	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C396	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C397	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C398	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C399	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C401,402	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C403,404	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C405,406	VCKYMN1HB391K	J	AA	390 pF,50V
C407,408	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C409,410	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C411,412	VCTYMN1CX122K	J	AA	0.0012 µF,16V
C429,430	VCKYMN1HB331K	J	AA	330 pF,50V
C435	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C437,438	VCTYMN1CX822K	J	AA	0.0082 µF,16V
C439,440	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C441,442	VCKYMN1HB471K	J	AA	470 pF,50V
C443,444	RC-GZA226AF1H	J	AB	22 µF,50V,Electrolytic
C445,446	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C448,449	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C451,452	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C453,454	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C456,457	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C458	VCQYKA1HM473J	J	AB	0.047 µF,50V,Mylar
C460	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
C461	VCQYKA1HM472J	J	AA	0.0047 µF,50V,Mylar
C465	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
C467	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
C469	VCQYKA1HM224J	J	AC	0.22 µF,50V,Mylar
C471	RC-GZA477AF1A	J	AC	0.47 µF,10V,Electrolytic
C472	RC-GZA334AF1H	J	AA	0.33 µF,50V,Electrolytic
C473,474	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
C475	VCQYKA1HM224J	J	AC	0.22 µF,50V,Mylar
C493,494	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C501~510	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C511,512	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C515,516	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C517,518	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C519	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C520	RC-GZA254AF1H	J		0.25 µF,50V,Electrolytic
C521,522	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C523,524	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C525,526	RC-GZA154AF1H	J	AA	0.15 µF,50V,Electrolytic
C527,528	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C529,530	VCQYKA1HM273J	J	AB	0.027 µF,50V,Mylar
C531,532	VCQYKA1HM153J	J	AB	0.015 µF,50V,Mylar
C533,534	VCQYKA1HM222J	J	AB	0.0022 µF,50V,Mylar
C535,536	VCQYKA1HM472J	J	AA	0.0047 µF,50V,Mylar
C537,538	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C539,540	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C541	RC-GZA226AF1E	J	AB	22 µF,25V,Electrolytic
C543~546	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C547~549	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C550	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C551,552	RC-EZ0023AWZZ	J	AL	33 µF,6.3V,Electrolytic
C553	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C555,556	VCKYMN1HB102K	J	AA	0.001 µF,50V
C557	RC-GZA226AF1E	J	AB	22 µF,25V,Electrolytic
C573,574	VCKYMN1HB820K	J	AA	82 pF,50V
C575,576	RC-GZA226AF1H	J	AB	22 µF,50V,Electrolytic
C591	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C592,593	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C594	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C601	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C603	VCKYMN1HB221K	J	AA	220 pF,50V
C605	VCKYMN1HB221K	J	AA	220 pF,50V
C607	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C609	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C611	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C612,613	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C614,615	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C621	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C625,626	VCKYMN1HB102K	J	AA	0.001 µF,50V
C627	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C631,632	VCKYMN1HB101K	J	AA	100 pF,50V
C633	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C639	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C640,641	VCQYKA1HM104J	J	AC	0.1 µF,50V,Mylar
C642	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C646	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C650	VCQYKA1HM104J	J	AC	0.1 µF,50V,Mylar

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C701	VCKYMN1HB101K	J	AA	100 pF,50V
C702	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C703	VCKYMN1HB101K	J	AA	100 pF,50V
C752	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C754	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C756	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C758	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C760	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C761	VCKYMN1HB471K	J	AA	470 pF,50V
C762	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C763	RC-EZD476AF1C	J	AC	47 µF,16V,Electrolytic
C771	VCKYMN1HB391K	J	AA	390 pF,50V
C772~774	VCKYMN1HB151K	J	AA	150 pF,50V
C775	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C801~806	VCQYKA1HM104J	J	AC	0.1 µF,50V,Mylar
C807	RC-GZA106AF1E	J	AA	10 µF,25V,Electrolytic
C815,816	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C817,818	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C820	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C821	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C822,823	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C830	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C831	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C832	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C840	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C841	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C842,843	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C850	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C851	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C852	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C860	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C861	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C867,868	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C872	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C880	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C881	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C882	VCKZPA1HF103Z	J	AA	0.01 µF,50V
C883	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C884	RC-GZA227AF1C	J	AB	220 µF,16V,Electrolytic
C885	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C888	92LCEU25W6800M	J	AP	6800 µF,25V,Electrolytic
C891	RC-GZW478AF1E	J	AG	4700 µF,25V,Electrolytic
C901	VCKYMN1HB391K	J	AA	390 pF,50V
C902,903	VCKYMN1HB151K	J	AA	150 pF,50V
C904~907	VCKYMN1HB101K	J	AA	100 pF,50V
C908	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C909	VCKYMN1HB101K	J	AA	100 pF,50V
C910	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C911	VCKYMN1HB101K	J	AA	100 pF,50V
C912	VCCCMN1HH100J	J	AA	10 pF (CH),50V
C913,914	VCKYMN1HB101K	J	AA	100 pF,50V
C915,916	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C917~920	VCKYMN1HB101K	J	AA	100 pF,50V
C921~923	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C924	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C925	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C926	RC-GZA477AF1A	J	AC	0.47 µF,10V,Electrolytic
C927	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C928	RC-GZA108AF0J	J	AC	1000 µF,6.3V,Electrolytic
C932	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C933	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C934	VCTYPA1HF104Z	J	AB	0.1 µF,50V
C936	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C937	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C938	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C939	VCTYMN1CY103K	J	AA	0.01 µF,16V
C942	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C945	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C946,947	VCCSPA1HL470J	J	AA	47 pF,50V
C948	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C949	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C950	VCCSBT1HL330J	J	AA	33 pF,50V
C951	VCKYPA1HF473Z	J	AB	0.47 µF,50V
C998	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C999	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C1009	VCKYPA1HB151K	J	AA	150 pF,50V
C1101	RC-KZ0003AWZZ	J	AE	4.7 µF,10V
C1102	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1103	VCKYTV1CF105Z	J	AB	1 µF,16V
C1104	VCKYTV1HB273K	J	AA	0.027 µF,50V
C1105	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1106	VCKYTV1CB474K	J	AC	0.47 µF,16V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C1107	VCKYTV1HB472K	J	AA	0.0047 µF,50V
C1109	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1110	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1111	VCKYTV1HB153K	J	AA	0.015 µF,50V
C1112~1116	VCCCCY1HH271J	J	AA	270 pF (CH),50V
C1119	VCCCCY1HH331J	J	AA	330 pF (CH),50V
C1121	VCKYTV1CF105Z	J	AB	1 µF,16V
C1145	VCKYCY1CB333K	J	AA	0.033 µF,16V
C1202,1203	VCKYTV1CF105Z	J	AB	1 µF,16V
C1204,1205	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C1206,1207	VCKYTV1CF105Z	J	AB	1 µF,16V
C1208	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1209~1211	VCKYTV1CF105Z	J	AB	1 µF,16V
C1251	VCKYCY1CB273K	J	AA	0.027 µF,16V
C1252	VCCCTV1HH121J	J	AA	120 pF (CH),50V
C1254	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1255	RC-KZ0003AWZZ	J	AE	4.7 µF,10V
C1401,1402	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1403	VCKYCY1HB681K	J	AA	680 pF,50V
C1405	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C1406	VCKYTV1CF105Z	J	AB	1 µF,16V
C1407	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1412	VCKYCY1HB681K	J	AA	680 pF,50V
C1421~1424	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1425	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1460	VCKYTV1CF105Z	J	AB	1 µF,16V
C1601,1602	RC-KZ0003AWZZ	J	AE	4.7 µF,10V
C1604	VCCCCY1HH560J	J	AA	56 pF (CH),50V
C1605	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C1609	VCKYTQ1CF105Z	J	AC	1 µF,16V
C1610	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1631	VCKYTV1CF105Z	J	AB	1 µF,16V
C1650~1653	VCCSCY1HL821J	J	AA	820 pF,50V
C1654,1655	VCKYCY1EB153K	J	AA	0.015 µF,25V
C1656,1657	VCKYCY1HB562K	J	AA	0.0056 µF,50V
C1661	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C1700,1701	VCKYTV1HF103Z	J	AA	0.01 µF,50V
C1702	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1703	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1704	VCKYTV1CF105Z	J	AB	1 µF,16V
C1706,1707	RC-EZ1620AFZZ	J	AC	10 µF,16V,Electrolytic
C1709	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1710	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1711	VCKYTV1HF103Z	J	AA	0.01 µF,50V
C1712	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1713	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1714	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1715	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1716,1717	VCKYTV1HF103Z	J	AA	0.01 µF,50V
C1720	VCKYCY1CB103K	J	AA	0.01 µF,16V
C1722	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C1724	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C1729	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1743	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1801	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1802	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C1803	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1805	VCKYTV1CF105Z	J	AB	1 µF,16V
C1806	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1807	VCEAPS227AF0G	J	AC	220 µF,4V,Electrolytic
C1810	VCKYTV1CF105Z	J	AB	1 µF,16V
C1904	VCKYTQ1CB334K	J	AC	0.33 µF,16V
C1913	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C1927	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1951	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1952	VCKYCY1CB103K	J	AA	0.01 µF,16V
C1953	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1954	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C1955	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1956	VCEAPS476AF0J	J	AC	47 µF,6.3V,Electrolytic
C1957	VCEAPS107AF0J	J	AC	100 µF,6.3V,Electrolytic
C1958	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1964	VCKYCY1HB102K	J	AA	0.001 µF,50V
C1990	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1991	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1992	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CJ172	VCCCCY1HH221J	J	AA	220 pF (CH),50V
JC121	VCKYCY1CB473K	J	AA	0.047 µF,16V

RESISTORS

	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4×3.5mm,Ivory

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
	VRD-SA2CD0R0J	J	AB	0 ohm,Jumper,ø1.9×3.4mm,Red
	VRD-ST2CD0R0J	J	AA	0 ohm,1/6W,Jumper
	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm, Green
	VRS-TV2AB000J	J	AA	0 ohm,Jumper,1.25×2mm,Green
⚠ FR201,202	VRG-ST2EC101J	J	AB	100 ohm,1/4W,Fusible
⚠ FR811	RH-QX0008AWZZ	J		Posistor,0.9 ohms
⚠ FR841,842	VRG-ST2EG2R2J	J	AB	2.2 ohms,1/4W,Fusible
⚠ FR896	VRG-ST2EG2R2J	J	AB	2.2 ohms,1/4W,Fusible
J644	VRD-ST2CD102J	J	AA	1 kohm,1/6W
J675	VRD-ST2CD102J	J	AA	1 kohm,1/6W
J1405	VRS-CY1JB103J	J	AA	10 kohm,1/16W
L602,603	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R2	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R3	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R4	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R5	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R6	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R7	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R8	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R9	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R10	VRD-ST2CD823J	J	AA	82 kohms,1/6W
R11	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R12	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R13	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R14	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R15	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R16	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R17	VRD-MN2BD823J	J	AA	82 kohms,1/8W
R18	VRD-ST2CD335J	J	AA	3.3 Mohms,1/6W
R19	VRD-MN2BD393J	J	AA	39 kohms,1/8W
R20	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R21	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R22	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R23	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R24	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R25	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R26,27	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R28,29	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R30	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R31	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R32	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R33	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R34	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R35	VRD-MN2BD471J	J	AA	470 ohms,1/8W
R36,37	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R38	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R39,40	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R41	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R42	VRD-MN2BD561J	J	AA	560 ohms,1/8W
R43	VRD-MN2BD220J	J	AA	22 ohms,1/8W
R45~47	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R48	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R49	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R56	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R57	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R58	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R60	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R61	VRD-MN2BD221J	J	AA	220 ohms,1/8W
R62~65	VRD-MN2BD823J	J	AA	82 kohms,1/8W
R66,67	VRD-MN2BD683J	J	AA	68 kohms,1/8W
R70	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R73,74	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R75,76	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R77,78	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R81	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R82	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R84	VRD-ST2CD220J	J	AA	22 ohms,1/6W
R89	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R90	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R91	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R93,94	VRD-ST2EE1R0J	J	AA	1 ohm,1/4W
R96	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R97	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R98	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R151	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R201,202	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R203,204	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R205,206	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R209,210	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R211,212	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R225	VRD-ST2CD102J	J	AA	1 kohm,1/6W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R227,228	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R229,230	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R239,240	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R243	VRS-VV3DA821J	J	AC	820 ohms,2W
R244	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R245	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R246	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R247	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R251,252	VRS-VV3AAR20J	J	AB	0.2 ohms,1W
R253,254	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R255,256	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R259,260	VRS-VV3AAR20J	J	AB	0.2 ohms,1W
R261	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R263	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R265,266	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R270	VRD-ST2EE271J	J	AA	270 ohms,1/4W
R271,272	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R273	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R274	VRD-ST2CD474J	J	AA	470 kohms,1/6W
R275	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R276	VRD-ST2CD470J	J	AA	47 ohms,1/6W
R277	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R278	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R298	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R319	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R324	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R344	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R345	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R346	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R347	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R348	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R349	VRD-ST2CD330J	J	AA	33 ohms,1/6W
R350	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
R351	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R352	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R353	VRD-MN2BD271J	J	AA	270 ohms,1/8W
R354	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R355	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R356	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R357	VRD-ST2CD474J	J	AA	470 kohms,1/6W
R358	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R359	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R360~362	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R363,364	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R365,366	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R367	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R368	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R369	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R371~374	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R376	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R377	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R378	VRD-MN2BD823J	J	AA	82 kohms,1/8W
R379	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R380	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R381	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R382	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R383~385	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R387	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R391,392	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R393	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R395	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R397,398	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R401,402	VRD-RT2HD561J	J	AA	560 ohms,1/2W
R403,404	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R407,408	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R409,410	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R411,412	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R413,414	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R415,416	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R417,418	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R419,420	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R427,428	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R429,430	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R431,432	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R433	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R435,436	VRD-MN2BD394J	J	AA	390 kohms,1/8W
R437,438	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R439,440	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R441,442	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R445,446	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R447,448	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R452	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R453,454	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R455~458	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R459	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R460	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R463,464	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R465,466	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R467,468	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R469,470	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R471	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R475	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R479	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R480	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R481	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R482	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R483	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R484	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R489	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R498,499	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R501	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R502	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R503,504	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R505,506	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R509,510	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R511,512	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R513,514	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R521,522	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R526	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R528~530	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R541	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R550	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R551	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R565	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R566	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R569,570	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R571,572	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R585,586	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R587	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R597,598	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R601	VRD-MN2CD102J	J		1 kohms,1/6W
R603	VRD-MN2BD683J	J	AA	68 kohms,1/8W
R605	VRD-MN2BD220J	J	AA	22 ohms,1/8W
R607	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R609	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R611	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R613	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R615	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R617	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R620	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R621	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R623,624	VRD-RT2HD101J	J	AA	100 ohm,1/2W
R631,632	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R633,634	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R635,636	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R640	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R642	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R643	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R644,645	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R650	VRD-MN2BD820J	J	AA	82 ohms,1/8W
R651	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R653	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R654	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R655	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R656,657	VRD-MN2BD151J	J	AA	150 ohms,1/8W
R701	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R702	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R703	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R704	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R705	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R706	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R711~713	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R714	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R721	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R722	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R723	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R724	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R725	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R726	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R727	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R729	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R730	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R731	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R732	VRD-ST2CD102J	J	AA	1 kohm,1/6W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R751	VRD-MN2BD684J	J	AA	680 kohms,1/8W
R752	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R753	VRD-ST2CD124J	J	AA	120 kohms,1/6W
R754	VRD-ST2CD274J	J	AA	270 kohms,1/6W
R755~757	VRD-ST2CD393J	J	AA	39 kohms,1/6W
R758,759	VRD-ST2CD154J	J	AA	150 kohms,1/6W
R760	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R761	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R771	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R772	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R773	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R774	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R775	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R776~778	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R781	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R782	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R783	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R784	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R785	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R786	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R787	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R788	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R791~795	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R801	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R811	VRD-ST2EE101J	J	AA	100 ohm,1/4W
⚠R812	RR-DZ0001AWZZ	J	AB	4.7 Mohms,1/2W
R813	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R820	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R821	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R830	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R831	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R832	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R840	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R841	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R852	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R853	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R861	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R862	VRD-ST2EE681J	J	AA	680 ohms,1/4W
R865	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R866~869	VRS-VV3DA180J	J	AC	18 ohms,1W
R871	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R873	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R880	VRD-ST2EE471J	J	AA	470 ohms,1/4W
R882	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R883	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R884	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R886	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R887	VRD-ST2CD154J	J	AA	150 kohms,1/6W
R888	VRD-ST2CD225J	J	AA	2.2 Mohms,1/6W
R889	VRD-ST2CD224J	J	AA	220 kohms,1/6W
R901	VRD-MN2BD474J	J	AA	470 kohms,1/8W
R903	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R904~906	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R907~910	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R911	VRN-RT2CK272F	J	AA	2.7 kohms,1/6W,±1%,Metal Film
R912	VRN-RT2CK222F	J	AA	2.2 kohms,1/6W,±1%,Metal Film
R913~916	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R917	VRN-RT2CK332F	J	AA	3.3 kohms,1/6W,±1%,Metal Film
R918	VRN-RT2CK182F	J	AA	1.8 kohms,1/6W,±1%,Metal Film
R919	VRD-MN2BD919J	J		10 kohm,1/8W
R920	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R921~923	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R924	VRN-RT2CK392F	J	AA	3.9 kohms,1/6W,±1%,Metal Film
R925	VRN-RT2CK472F	J	AA	4.7 kohms,1/6W,±1%,Metal Film
R926	VRN-RT2CK682F	J	AA	6.8 kohms,1/6W,Metal Film
R927	VRN-RT2CK103F	J	AA	10 kohm,1/6W,±1%,Metal Film
R928	VRN-RT2CK153F	J	AA	15 kohms,1/6W,±1%,Metal Film
R930	VRN-RT2CK223F	J	AA	22 kohms,1/6W,±1%,Metal Film
R931	VRN-RT2CK104F	J	AB	100 kohms,1/6W,Metal Film
R932	VRN-RT2CK393F	J		39 kohms,1/6W,Metal Film
R933~938	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R940	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R941~943	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R944,945	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R946	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R948~950	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R951	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R952	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R953	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R954	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R955	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R956	VRD-MN2BD103J	J	AA	10 kohm,1/8W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R957	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R958	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R959	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R960	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R961	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R962,963	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R964,965	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R966	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R967	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R968	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R969~971	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R972	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R973	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R974~976	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R977	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R978	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R979~987	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R988	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R989~991	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R992	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R993	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R994	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R995,996	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R998	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R999	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R1000~1002	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R1003	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R1004	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R1005	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R1006~1021	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R1023~1026	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R1027	VRD-MN2BD334J	J	AA	330 kohms,1/8W
R1028~1030	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R1033,1034	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R1036,1037	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R1038,1039	VRD-MN2BD474J	J	AA	470 kohms,1/8W
R1040	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R1044	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R1046,1047	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R1048	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R1049	VRD-MN2BD820J	J	AA	82 ohms,1/8W
R1050	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R1051	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R1052	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R1053	VRD-ST2CD820J	J	AA	82 ohms,1/6W
R1054	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R1055~1057	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R1058	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R1059	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R1061,1062	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R1063,1064	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R1067	VRD-MN2BD474J	J	AA	470 kohms,1/8W
R1070	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R1071	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R1072~1076	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R1077	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R1080	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R1083~1086	VRD-ST2CD273J	J	AA	27 kohms,1/6W
R1091,1092	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R1100	VRS-TQ2BB270J	J	AA	27 ohms,1/8W
R1102	VRS-CY1JB561J	J	AA	560 ohms,1/16W
R1105	VRS-CY1JB394J	J	AA	390 kohms,1/16W
R1106	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1107	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R1150~1154	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R1155	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R1166	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1201	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R1202	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R1210	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1211	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1221	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1223	VRS-TV2AB681J	J	AA	680 ohms,1/10W
R1251	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1254	VRS-TV2AB221J	J	AA	220 ohms,1/10W
R1261~1263	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1266	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1281	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1401	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1404	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1406,1407	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R1408	VRS-CY1JB104J	J	AA	100 kohm,1/16W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R1409	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1412	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1413	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R1414	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1415	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1416	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1418	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1420	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1422~1424	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1425	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R1426	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1427	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R1428	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1429,1430	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1452	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R1454	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1456	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1458	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1459	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1460	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1461	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1462	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1463	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1464	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1466	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1471	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1472	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1473	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1474~1476	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1478	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1609	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R1610	VRS-CY1JB303D	J	AA	30 kohms,1/16W
R1611	VRS-CY1JB123D	J	AA	12 kohms,1/16W
R1612	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R1613	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1614	VRS-CY1JB183D	J	AA	18 kohms,1/16W
R1617	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1650	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1651	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1652	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1653	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1654	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1655	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R1656	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1657	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R1658	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R1659	VRS-CY1JB823J	J	AA	82 kohms,1/16W
R1660	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R1661	VRS-CY1JB823J	J	AA	82 kohms,1/16W
R1662	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1663	VRS-CY1JB623J	J	AA	62 kohms,1/16W
R1664	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1665	VRS-CY1JB623J	J	AA	62 kohms,1/16W
R1666,1667	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R1668,1669	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1701	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R1702	VRS-CY1JB684J	J	AA	680 kohms,1/16W
R1707,1708	VRS-CY1JB432J	J	AA	4.3 kohms,1/16W
R1710	VRS-CY1JB303J	J	AA	30 kohms,1/16W
R1711	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1712	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1713,1714	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1715	VRS-CY1JB102D	J	AA	1 kohm,1/16W
R1716	VRS-CY1JB332D	J	AA	3.3 kohms,1/16W
R1717	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1731	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1733	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1734,1735	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1801	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R1802	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R1804	VRS-CY1JB224D	J	AA	220 kohms,1/16W
R1805	VRS-CY1JB104D	J	AA	100 kohm,1/16W
R1806,1807	VRS-TV2AB120J	J	AA	12 ohms,1/10W
R1808	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1809	VRS-CY1JB391J	J	AA	390 ohms,1/16W
R1810	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1811	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1820,1821	VRS-TV2AB1R0J	J	AA	1 ohm,1/10W
R1827	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R1901	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R1902	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R1903,1904	VRS-TV2AB821J	J	AA	820 ohms,1/10W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R1927	VRS-TV2AB220J	J	AA	22 ohms,1/10W
R1939	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1947	VRS-TV2AB470J	J	AA	47 ohms,1/10W
R1961	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1962	VRS-CY1JB224J	J	AA	220 kohms,1/16W
R1963	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R1964	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1965	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1967	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1968	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1969	VRS-TQ2BB560J	J	AA	56 ohms,1/8W
R1973	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1974	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1994,1995	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RC120	VRS-CY1JB221J	J	AA	220 ohms,1/16W
⚠ RP821	RH-QX0002AWZZ	J	AK	Posistor,0.7 ohms
⚠ RP870	RH-QX0002AWZZ	J	AK	Posistor,0.7 ohms
TP701	VHH4G42104E-1	J	AE	Thermistor,Positive/Negative C

OTHER CIRCUITRY PARTS

BI151/CNS151	QCNWN0912AWZZ	J	AH	Connector Ass'y,6/6Pin
BI600/CNS600A/B	QCNWN0957AWZZ	J	AH	Connector Ass'y,12/8/4Pin
BI610/CNS610	QCNWN1117AWZZ	J	AR	Connector Ass'y,13/13Pin
BI620/CNS620	QCNWN0960AWZZ	J	AG	Connector Ass'y,3/3Pin
BI630/CNS630	QCNWN1118AWZZ	J	AR	Connector Ass'y,11/11Pin
BI752/CNS752	QCNWN0956AWZZ	J	AE	Connector Ass'y,4/4Pin
BI755/CNS755	92LCONPB12BPHK	J	AD	Connector Ass'y,12/12Pin
BI830/CNS830	QCNWN0952AWZZ	J	AE	Connector Ass'y,2/2Pin
BI850/CNS850	QCNWN0951AWZZ	J	AK	Connector Ass'y,8/8Pin
BI960/CNS960	QCNWN1049AWZZ	J	AG	Connector Ass'y,5/5Pin
BI970/CNS970	QCNWN0955AWZZ	J	AH	Connector Ass'y,2/2Pin
BI980/CNS980	QCNWN0953AWZZ	J	AM	Connector Ass'y,14/14Pin
BI990/CNS990	QCNWN0954AWZZ	J	AR	Connector Ass'y,7/7Pin
BIM1	QCNWN1005AWZZ	J	AF	Connector Ass'y,4Pin
BIM2/CNS2	QCNWN1020AWZZ	J	AF	Connector Ass'y,5/5Pin
BIM3	QCNWN0987AWZZ	J	AH	Connector Ass'y,6Pin
CNP1	92LCONPB7BPHK	J	AC	Plug,7Pin
CNP2	92LCONPB8BPHK	J	AC	Plug,8Pin
CNP3	92LCONE6P53253	J	AC	Plug,6Pin
CNP3A	92LCONE6P53254	J	AC	Plug,6Pin
CNP11	92LCONE4P53015	J	AC	Plug,4Pin
CNP12	92LCONE5P53254	J	AB	Plug,5Pin
CNP151	QCNCM786FAFZZ	J	AD	Plug,6Pin
CNP201	92LCONE4P53254	J	AC	Plug,4Pin
CNP261	92LCONE2P53253	J	AB	Plug,2Pin
CNP701	QCNCW679HAFZZ	J	AC	Socket,8Pin
CNP721	QCNCW679DAFZZ	J	AE	Socket,4Pin
CNP741	92LCONE-2P5268	J	AB	Plug,2Pin
CNP751	QCNCWWS34AFZZ	J	AG	Socket,34Pin
CNP771	QCNCM040HAWZZ	J	AG	Plug,8Pin
CNP772	QCNCM040DAWZZ	J	AE	Plug,4Pin
CNP773	92LCON8PTKCUPB	J	AE	Plug,8Pin
CNP774	92LCON6PTKCUPB	J	AD	Plug,6Pin
CNP810	QCNCW010QAWZZ	J	AE	Socket,14Pin
CNP820	QCNCW010PAWZZ	J	AE	Socket,14Pin
CNP850	92LCONE8P5267X	J	AD	Plug,8Pin
CNP900	92LCONE6P53253	J	AC	Plug,6Pin
CNP905	92LCONEDP53253	J	AE	Plug,13Pin
CNP910	QCNCM010QAWZZ	J	AD	Plug,15Pin
CNP915	92LCONE8P53253	J	AC	Plug,8Pin
CNP920	QCNCM010PAWZZ	J	AD	Plug,14Pin
CNP925	92LCONE3P53253	J	AB	Plug,3Pin
CNP930	92LCON6PTKCUXA	J	AD	Socket,6Pin
CNP935	92LCONEBP53253	J	AC	Plug,11Pin
CNP940	92LCON8PTKCUXA	J	AE	Socket,8Pin
CNP950	QCNCWZJ24AWZZ	J	AK	Socket,24Pin
CNP961	92LCONPB2BPHK	J	AB	Plug,2Pin
CNP970	92LCONE4P53253	J	AB	Plug,4Pin
CNP975	QCNWN1046AWZZ	J	AL	Plug,12Pin
CNP980	92LCONEEP53253	J	AE	Plug,14Pin
CNP985	92LCONPB5BPHK	J	AC	Plug,5Pin
CNP990	92LCONE7P53253	J	AC	Plug,7Pin
CNP995	92LCONE2P53253	J	AB	Plug,2Pin
CNP999	92LCONE6P53254	J	AC	Plug,6Pin
CNP1252	QCNCM891BAFZZ	J	AC	Plug,2Pin
CNP1601	QCNCWXC05AFZZ	J	AC	Plug,5Pin
CNP1602	QCNCM890BAF02	J	AD	Plug,2Pin
CNP1603	QCNCM890BAFZZ	J	AC	Plug,2Pin
CNP1604	QCNCM890BAF06	J	AD	Plug,2Pin
CNP1904	QCNCM891DAFZZ	J	AD	Plug,4Pin
CNS1A/B	QCNWN0858AWZZ	J	AG	Connector Ass'y,8/8Pin

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
CNS2A/B	QCNWN0859AWZZ	J	AF	Connector Ass'y,7/7Pin
CNS3A/B	QCNWN0857AFZZ	J	AK	Connector Ass'y,6/6Pin
CNS950/A/B	QCNWN0959AWZZ	J	AS	Connector Ass'y,8/2/6Pin
CNS961	QCNWN1017AWZZ	J	AC	Connector Ass'y,2Pin
CNS999A/B	QCNWN1047AWZZ	J	AE	Connector Ass'y,2/2Pin
CNS1000A/B	QCNWN1070AWZZ	J	AF	Connector Ass'y,3/3Pin
CNS1101	QCNCWY028AFZZ	J	AE	Socket,28Pin
CNS1901	QCNCW035EAWZZ	J	AG	Socket,5Pin
CNS1902	QCNCWZC24AWZZ	J	AH	Socket,24Pin
CNS1903	QCNWN1044AWZZ	J	AG	Connector Ass'y,2Pin
CNS1904A/B	QCNWN0971AWZZ	J	AF	Connector Ass'y,4/2Pin
⚠F802,803	92LFUSE-T502-D	J	AD	Fuse,5A L 125V
⚠F804,805	92LFUSE-T162-D	J	AD	Fuse,1.6A L 250V
FE301	RTUNS0008AWZZ	J	AN	FM Front End
FW701	QCNWN0965AWZZ	J	AC	Flat Cable,3Pin
FW1901	QCNWN1042AWZZ	J	AD	Flat Cable,5Pin
JK151	QJAKM0190AFZZ	J	AG	Jack,MD IN/AUX 1
JK501	92LJACKL1779A	J	AG	Jack,Analog IN/OUT
JK502	92LJACKL1776A	J	AF	Jack,Phono Input
JK601	QJAKH0001AWZZ	J	AH	Jack,Microphone
JK901	QJAKH0001AWZZ	J	AH	Jack,Headphones
JK902	QJAKZ0009AWZZ	J	AD	Jack,AUX Digital 2 Input
JOG701	QSW-Z0003AWZZ	J	AH	Switch,Push Type [Volume]
LCD751	RUNTZ0609AFZZ	J	BQ	Display
LMP701	RLMPM0247AFZZ	J	AE	Lamp
LMP741~744	RLMPP0145AFZZ	J	AF	Lamp
M701	92LMTR1854CASY	J	AS	Motor with Chassis [Spindle]
M702	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
M901	RMOTV0012AWZZ	J	AV	MD Spindle Motor Ass'y
M902	RMOTV0013AWM1	J	AQ	MD Sled Motor Ass'y
M903	RMOTV0014AWM1	J	AQ	MD Loading Motor Ass'y
M971	92LMTR1810A	J	AK	Fan Motor
MOB1	RMOTV0373AFM1	J	AQ	Main Cam Motor Ass'y
MOB2	RMOTV0373AFM1	J	AQ	Tray Motor Ass'y
RL201	RRLYD0004AWZZ	J	AP	Relay
RX701	VHL21043TH2-1	J	AG	Remote Sensor,21043TH2
SO201	QTANA0404AWZZ	J	AF	Terminal,Speaker
SO301	QTANC0403AWZZ	J	AG	Treminal,Antenna
SO601	QSOCZ0001AWZZ	J	AN	Socket,Keybord Input
SO602	QSOCZ0002AWZZ	J	AQ	Socket,PC Control
SW701	QSW-K0005AWZZ	J	AC	Switch,Key Type [Power]
SW702	QSW-K0005AWZZ	J	AC	Switch,Key Type [MD>MD Edit]
SW702A	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]
SW703	QSW-K0005AWZZ	J	AC	Switch,Key Type [Track]
SW704	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD>MD Edit]
SW705	QSW-K0005AWZZ	J	AC	Switch,Key Type [MD Record]
SW706	QSW-K0005AWZZ	J	AC	Switch,Key Type [MD Eject]
SW707	QSW-K0005AWZZ	J	AC	Switch,Key Type [Computer Network]
SW721	QSW-K0005AWZZ	J	AC	Switch,Key Type [Display]
SW722	QSW-K0005AWZZ	J	AC	Switch,Key Type [Timer Delete]
SW723	QSW-K0005AWZZ	J	AC	Switch,Key Type [Name/TOC Edit]
SW724	QSW-K0005AWZZ	J	AC	Switch,Key Type [Message]
SW725	QSW-K0005AWZZ	J	AC	Switch,Key Type [Tuning/Cursor Down]
SW726	QSW-K0005AWZZ	J	AC	Switch,Key Type [Tuning/Cursor Up]
SW727	QSW-K0005AWZZ	J	AC	Switch,Key Type [AUX]
SW728	QSW-K0005AWZZ	J	AC	Switch,Key Type [Tuner (Band)]
SW729	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Disc 1 Open/Close]
SW730	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Disc 2 Open/Close]
SW731	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Disc 3 Open/Close]
SW771	QSW-K0005AWZZ	J	AC	Switch,Key Type [Enter]
SW772	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Play/Pause]
SW773	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Stop]
SW774	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Disc 1 Play]
SW775	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Disc 2 Play]
SW776	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD Disc 3 Play]
SW781	QSW-K0005AWZZ	J	AC	Switch,Key Type [Multi Control Down]
SW782	QSW-K0005AWZZ	J	AC	Switch,Key Type [Multi Control Right]
SW783	QSW-K0005AWZZ	J	AC	Switch,Key Type [Multi Control Left]
SW784	QSW-K0005AWZZ	J	AC	Switch,Key Type [Multi Control Up]
SW785	QSW-K0005AWZZ	J	AC	Switch,Key Type [Equalizer]
SW786	QSW-K0005AWZZ	J	AC	Switch,Key Type [X-BASS]
SW787	QSW-K0005AWZZ	J	AC	Switch,Key Type [3D Surround]
SW788	QSW-K0005AWZZ	J	AC	Switch,Key Type [MD Stop]
SW789	QSW-K0005AWZZ	J	AC	Switch,Key Type [MD Play/Pause]
SW901	92LSWICH-1385A	J	AC	Switch,Key Type [Reset]
SW1952A/B	QSW-P0006AWZZ	J	AG	Switch,Push Type [Write Pro/Direct]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Push Type [Lead In]
SW1954	QSW-M0002AWZZ	J	AD	Switch,Push Type [MD Play]
SW1955	QSW-M0002AWZZ	J	AD	Switch,Push Type [MD Record]
SW1956	QSW-M0001AWZZ	J	AD	Switch,Leaf Type [Loading]
SWB101,102	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam1,2]
SWB103,104	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam3,4]
SWB105	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD Eject]
SWB106	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD Tray Close]
SWB107	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD In]
SWB108	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD Set]
UNA901	VHPGP1F32R/-1	J	AP	AUX Digital 1 Input,GP1F32R

MD MECHANISM PARTS

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
1	LANGF0033AWZZ	J	AD	MD Guide (A)
2	LANGF0034AWZZ	J	AD	MD Guide (B)
3	LANGK0092AWFW	J	AM	Base Frame
4	LCHSM0060AWM1	J	AP	Drive Chassis
5	LHLDX3001AWM1	J	AP	Cartridge Holder
6	MLEVF0024AWM1	J	AF	Lever,Cam Plate
7	MLEVF0025AWZZ	J	AD	Arm,Head Up Shift
8	MLEVF0026AWZZ	J	AF	Arm,Holder
9	MLEVF0029AWM1	J	AL	Lever,Roller Arm
10	MLEVP0075AWZZ	J	AD	Lever,Clampa
11	MLEVP0076AWZZ	J	AC	Lever,Catch
12	MLEVP0077AWZZ	J	AC	Lever,Slide
13	MSPRD0103AWFJ	J	AB	Spring,Roller Holder
14	MSPRD0105AWFJ	J	AB	Spring,Spin
15	MSPRD1318AFFJ	J	AB	Spring,Shift Arm
16	MSPRD1319AFFJ	J	AB	Spring,Holder Arm
17	MSPRD1321AFFJ	J	AB	Spring,Lack
18	MSPRD1334AFFJ	J	AC	Spring,Catch
19	MSPRP0015AWFJ	J	AB	Spring,Board (A)
20	MSPRP0017AWFJ	J	AB	Spring,Drive Shaft
21	MSPRT1566AFFJ	J	AB	Spring,Roller
22	NGERH0066AWZZ	J	AC	Gear,Loading (B)
23	NGERH0067AWZZ	J	AC	Gear,Drive
24	NGERH0068AWZZ	J	AC	Gear,Loading (A)
25	NGERH0069AWZZ	J	AC	Gear,Roller
26	NGERR0002AWZZ	J	AC	Gear,Lack
29	NROLP0010AWZZ	J	AC	Holder,Roller
30	NROLR0001AWZZ	J	AC	Roller,Transfer
31	NSFTD0005AWFT	J	AF	Shaft,Drive
32	NSFTM0017AWFW	J	AC	Shaft,Loading Gear
33	NSFTM0277AFFW	J	AC	Shaft,Pickup Slide
34	NSFTM0278AFFW	J	AC	Shaft,Pickup Guide
35	PCOVS3021AWFW	J	AL	Cover,Shield,Top
36	PCOVS3022AWFW	J	AK	Cover,Shield,Bottom
37	PCUSG0531AFSA	J	AD	Insulator (A)
38	PCUSG0531AFSB	J	AD	Insulator (B)
39	PCUSS0040AWZZ	J	AC	Cushion,Head
40	RCILH0108AFZZ	J	AP	Magnetic Head
⚠41	RCTRH8173AFZZ	J	BN	Optical Pickup Unit
42	QCNWN6715AFM1	J	AM	MD Flat Cable,24Pin
45	PSHEP0024AWZZ	J	AC	Sheet,Head
46	PSHEP0026AWZZ	J	AC	Sheet,Head Up Shift Arm
601	LX-BZ0030AWZZ	J	AB	Screw,ø1.7×9.5mm
602	LX-BZ0031AWZZ	J	AB	Screw,ø1.7×7.5mm
603	LX-BZ0032AWZZ	J	AB	Screw,ø1.7×2mm
604	LX-BZ0804AFFF	J	AA	Screw,ø1.4×2.2mm
605	LX-BZ0846AFZZ	J	AB	Screw,ø1.7×3mm
606	LX-BZ0851AFZZ	J	AB	Screw,ø1.7×2.5mm
607	LX-BZ0852AFFD	J	AC	Screw,ø1.7×8.9mm
608	LX-BZ0883AFZZ	J	AB	Screw,ø1.7×5mm
609	LX-WZ9268AFZZ	J	AA	Washer,ø1.5×ø3.2×0.5mm
610	LX-WZ9269AFZZ	J	AA	Washer,ø1.2×ø3×0.25mm
611	XBPSD20P04K00	J	AA	Screw,ø2×4mm with Washer
612	XSPSN17P03K00	J	AB	Screw,ø1.7×3mm
M901	RMOTV0012AWZZ	J	AV	MD Spindle Motor Ass'y
M902	RMOTV0013AWM1	J	AQ	MD Sled Motor Ass'y

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
M903	RMOTV0014AWM1	J	AQ	MD Loading Motor Ass'y
SW1952A/B	QSW-P0006AWZZ	J	AG	Switch,Push Type [Write Pro/Direct]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Push Type [Lead In]
SW1954	QSW-M0002AWZZ	J	AD	Switch,Push Type [MD Play]
SW1955	QSW-M0002AWZZ	J	AD	Switch,Push Type [MD Record]
SW1956	QSW-M0001AWZZ	J	AD	Switch,Leaf Type [Loading]

CD MECHANISM PARTS

301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
303	MLEVP0010AWZZ	J	AC	Rail,Guide
304	NSFTM0002AWFW	J	AE	Shaft,Guide
305	PCUSG0427AFSC	J	AC	Cushion
⚠306	RCTRH8164AFZZ	J	BF	Pickup Unit Ass'y
306- 1	————		—	Pickup Unit (Not Replacement Item)
306- 2	NGERR0043AFZZ	J	AC	Gear,Rack
306- 3	MSPRC0961AFZZ	J	AA	Spring,Rack
307	PCUSG0001AWSA	J	AD	Insulator
308	PCUSG0004AWSA	J	AD	Insulator
701	92L2R6S+6CZ	J	AB	Screw,ø2.6×6mm
702	92L2TTS+5BB	J	AB	Screw,ø2×5mm
703	XBBSD20P03000	J	AA	Screw,ø2×3mm
704	92L1R5WC3R8R25	J	AA	Washer,ø1.5×ø3.8×0.25mm
M701	92LMTR1854CASY	J	AS	Motor with Chassis [Spindle]
M702	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
SW702A	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]

CHANGER MECHANISM

101	LCHSM0037AWZZ	J	AP	Main Base
102	LANGF0024AWZZ	J	AE	Top Board
103	NROLP0007AWZZ	J	AB	Rollar,Cam Guide
104	NPLYR0004AWZZ	J	AC	Pulley,Drive
105	NGERH0052AWZZ	J	AC	Gear,Idler
106	NGERH0053AWZZ	J	AB	Gear,Cam
107	NGERH0054AWZZ	J	AB	Gear,Midle
108	NGERH0057AWZZ	J	AB	Gear,Tray Idler
109	MCAMP0127AFZZ	J	AR	Main Cam
110	MLEVP0056AWZZ	J	AC	Lever,Front Switch
111	MLEVP0057AWM1	J	AC	Rear Switch Lever Ass'y
112	MLEVP0058AWZZ	J	AB	Lever,Tray Lock
113	PGIDM0018AWZZ	J	AF	Holder,Mechanism
114	PGIDM0019AWZZ	J	AE	Holder,Stabilizer
115	LHLDM1008AWZZ	J	AD	Stabilizer
116	PGIDM0017AWZZ	J	AC	Guide,Mechanism Holder
119	GCOVA1152AWZZ	J	AL	Tray,Disc Guide
120	GCOVA1153AWZZ	J	AF	Tray,Disc
121	LANGF0025AWZZ	J	AB	Bracket,Switch
122	NSFTL0001AWZZ	J	AB	Shaft,Tray Change
123	MSPRD0078AWFJ	J	AB	Spring,Tray Switch
124	MSPRD0080AWFJ	J	AB	Spring,Tray Lock Lever
125	MSPRD0079AWFJ	J	AB	Spring,Disc Stop
126	NBLTK0028AWZZ	J	AB	Belt,Tray Drive
127	NBLTK0027AWZZ	J	AB	Belt,Cam Drive
128	PMAGF0001AWZZ	J	AF	Magnet
129	92LN-BAND1318A	J	AA	Nylon Band,80mm
130	PGUMS0012AWZZ	J	AB	Tray Rover
131	LANGF0028AWZZ	J	AB	Bracket,Mechanism Holder
132	LCHSM0038AWZZ	J	AK	Changer Box
133	NGERH0055AWZZ	J	AC	Gear,Center
134	NGERH0056AWZZ	J	AB	Gear,Center Tray
135	NGERH0058AWZZ	J	AB	Gear,Tray Drive
136	MLEVP0052AWZZ	J	AC	Lever,Tray Change
137	MLEVP0053AWZZ	J	AC	Lever,Top Joint
138	MLEVP0054AWZZ	J	AC	Lever,Midle Joint
139	MLEVP0055AWZZ	J	AC	Lever,Bottom Joint
801	XBPSD26P04000	J	AA	Screw,ø2.6×4mm
802	XEBSD20P07000	J	AB	Screw,ø2×7mm
803	XEBSD20P06000	J	AA	Screw,ø2×6mm
804	XEBSD26P12000	J	AA	Screw,ø2.6×12mm
805	LX-EZ0005AWFD	J	AA	Screw,ø2.6×10mm
MOB1	RMOTV0373AFM1	J	AQ	Main Cam Motor Ass'y
MOB2	RMOTV0373AFM1	J	AQ	Tray Motor Ass'y
SWB101,102	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam1,2]
SWB103,104	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam3,4]
SWB105	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD Eject]
SWB106	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD Tray Close]
SWB107	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD In]
SWB108	QSW-P0920AFZZ	J	AC	Switch,Push Type [CD Set]

CABINET PARTS

201	92LCAB2592AS1	J	BH	Front Panel Ass'y
201- 1	————		—	Front Panel (Not Replacement Item)
201- 2	92LCUSN1746A	J	AA	Cushion,Leg
201- 3	HDECP0039AWSA	J	AD	Panel,Remote Sensor
201- 4	HDECQ0194AWSA	J	AD	Panel,MD Indicator
201- 5	HDECQ0195AWSA	J	AC	Panel,PC Mode Indicator
201- 6	HDECQ0211AWSA	J	AC	Panel,3D Surround Indicator
201- 7	HDECQ0244AWSA	J	AC	Panel,MD/CD Display
201- 8	HDECQ0245AWSA	J	AC	Panel,MD Record Display
201- 9	HDECQ0246AWSA	J	AS	Panel,MD Display
201-10	JKNBK0047AWSA	J	AE	Button,Multi Control
201-11	JKNBZ0358AWSA	J	AE	Button,MD/MD Edit
201-12	JKNBZ0359AWSA	J	AE	Button,CD/MD Edit
201-13	JKNBZ0360AWSA	J	AG	Button,Computer Network
201-14	JKNBZ0361AWSA	J	AE	Button,CD Track
201-15	JKNBZ0362AWSA	J	AF	Button,MD Play/Pause/Stop
201-16	JKNBZ0363AWSA	J	AE	Button,MD Eject/Record
201-17	JKNBZ0365AWSA	J	AF	Button,CD MD Edit
201-18	JKNBZ0366AWSA	J	AE	Button,Power
201-19	JKNBZ0367AWSA	J	AF	Button,Tuner/AUX
201-20	JKNBZ0369AWSA	J	AE	Button,Enter
201-21	JKNBZ0371AWSA	J	AE	Button,3D Surround/X-BASS/ Equalizer
201-22	JKNBZ0372AWSA	J	AE	Button,Message
201-23	JKNBZ0375AWSA	J	AF	Button,CD Play/Pause/Stop
201-24	JKNBZ0376AWSA	J	AE	Button,CD Open/Close
201-25	JKNBZ0410AWSA	J	AE	Button,CD Play 1
201-26	JKNBZ0411AWSA	J	AE	Button,CD Play 2
201-27	JKNBZ0412AWSA	J	AE	Button,CD Play 3
201-28	PSHEP0015AWZZ	J	AD	Cover,Jack
201-29	PSHET0010AWZZ	J	AC	Sheet,CD Button
202	GDORF0037AWSA	J	AF	MD Door
203	LHLDZ1124AW00	J	AC	Holder,MD Door
204	MSPRD0027AWZZ	J	AB	Spring,MD Door
231	JKNBK0045AWSA	J	AC	Knob,Mic Volume/Input Level
232	JKNBK0046AWSA	J	AF	Knob,Volume
233	GCOVA1143AWSA	J	AF	Cover,Disc Tray 1
234	GCOVA1144AWSA	J	AG	Cover,Disc Tray 2
235	GCOVA1145AWSA	J	AF	Cover,Disc Tray 3
236	92LCAB2530CS1	J	BE	Cabinet
239	GITAR0270AWSA	J	AS	Rear Panel
240	HDECQ0192AWSA	J	AG	Panel,Display
241	HDECQ0193AWSA	J	AE	Holder,Display Panel
242	PSHET0009AWZZ	J	AK	Sheet,Display
243	LHLDZ1154AWZZ	J	AH	Holder,Display
244	LHLDZ1152AWZZ1	J	AD	Holder,MD Unit
245	LANGK0083AWFW	J	AD	Bracket,Jack
247	LANGJ0007AWFW	J	AC	Bracket,Jack PWB
248	LANGK0079AWFW	J	AE	Bracket,CD Changer
249	PSLDM3036AWFW	J	AD	Shield
250	PSPAN0002AWZZ	J	AC	Spacer,CD Servo PWB
251	LCHSM0051AWFW	J	AR	Main Chassis
252	LANGK0074AWFW	J	AE	Bracket,Main Chassis,Left
253	LANGK0075AWFW	J	AE	Bracket,Main Chassis,Right
254	LCHSM0052AWFW	J	AR	Sub Chassis
255	LANGT0042AWFW	J	AC	Bracket,Power PWB
257	LANGK0078AWFW	J	AH	Holder,MD Mechanism
258	LANGK0091AWFW1	J	AF	Bracket,Fan Motor
259	NFANP0001AWZZ	J	AD	Motor Fan
260	92LCSPR1431C	J	AA	Spring,Motor Fan Ring
261	PCUSG0008AWZZ	J	AB	Cushion,Fan Motor Bracket
262	PCUSG0031AWZZ	J	AC	Cushion,Motor Fan
263	PSPAS0003AWZZ	J	AC	Spacer,Fan Motor Bracket
⚠264	LBSHC0002AWZZ	J	AD	Bushing,AC Power Supply Cord
⚠265	QACCD0014AWZZ	J	AK	AC Power Supply Cord
266	PRDAR0103AWFW	J		Heat Sink
267	PRDAR0075AWFW	J	AP	Heat Sink
268	PRDAR0076AWFW	J	AQ	Heat Sink
269	PRDAR0090AWFW	J	AT	Heat Sink
270	92LCUSN1746A	J	AA	Cushion,Leg
271	LHLDZ1150AWZZ	J	AC	Holder,Record LED
272	LHLDZ1153AWZZ	J	AC	Holder,Play LED
⚠273	QFSHD0001AWZZ	J	AB	Holder,Fuse
275	92LN-BAND1318A	J	AA	Nylon Band,80mm
277	————		—	Cap (with UNA901)
278	LANGK0100AWFW	J	AD	Bracket,MD Mechanism,Left
279	LANGK0101AWFW	J	AD	Bracket,MD Mechanism,Right

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
280	MSPRD0108AWFJ	J	AC	Spring,Fan Motor
281	NBRGC0003AWZZ	J	AC	Bearing Metal
601	LX-BZ0880AFZZ	J	AC	Screw,ø2×2mm
602	XBPSD30P10KS0	J	AA	Screw,ø3×10mm
603	XEBSD26P10000	J	AA	Screw,ø2.6×10mm
604	XEBSD30P10000	J	AA	Screw,ø3×10mm
605	LX-HZ0087AFFD	J	AA	Screw,ø3×8mm
606	XWHSD32-10130	J	AA	Washer,ø3.2×ø13×1.0mm
607	XJBSF30P08000	J	AA	Screw,ø3×8mm
608	XJBSD30P06000	J	AA	Screw,ø3×6mm
609	XJBSD30P08000	J	AA	Screw,ø3×8mm
610	XJBSD30P14000	J	AA	Screw,ø3×14mm
611	XJBSN30P08000	J	AA	Screw,ø3×8mm
613	LX-HZ0082AFZZ	J	AA	Screw,ø4×8mm
614	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
615	LX-JZ0022AFFD	J	AA	Screw,ø3×8mm
616	LX-JZ0033AFFF	J	AA	Screw,ø3×8mm
617	LX-JZ0039AFFD	J	AA	Screw,ø3×12mm
618	XESSD30P10000	J	AA	Screw,ø3×10mm
619	XHBSN30P10000	J	AA	Screw,ø3×10mm
620	XJBSD30P08000	J	AA	Screw,ø3×8mm

SPEAKER BOX PARTS

901	92L121-0102	J	AU	Net Frame Ass'y
902	92L126-0007	J	AY	Front Panel Ass'y
903	92L313-0003	J	AN	Top Panel
904	92L051-0040	J	BE	Speaker Box Ass'y
905	92L127-0003	J	AT	Speaker Terminal Ass'y
906	92L319-0027	J	AE	Catcher,Holder
907	92L316-0044	J	AF	Speaker Duct
908	92L316-0043	J	AM	Cover,Speaker Duct
909	92L351-0202	J	AD	Panel,Specification
910	92L372-0014	J	AC	Screw,ø4×16mm
911	92L372-0035	J	AB	Screw,ø3×12mm
912	92L372-0088	J	AF	Screw,ø4×15mm
SP1,2	VSP0015WB036A	J	BF	Woofer
SP3,4	VSP0025TB378A	J	BD	Tweeter
C1	92L293-0029	J	AH	3.3 µF,100V,Film Capacitor

ACCESSORIES

	SPAKF0001AWZZ	J	AF	Pad,Remote Control
	TINSE0182AWZZ	J	AQ	Operation Manual
	TINSZ0267AWZZ	J	AC	Spanish Tag
	UDSKM0001AFZZ	J	AZ	Recording Mini Disc
	92LF-ANT1533A	J	AD	FM Antenna
	92LL-ANT1676A	J	AK	AM Loop Antenna
	92L291-0054	J	AN	Speaker Cord Ass'y
	RRMCG0101AWSA	J	BL	Remote Control
	GFTAB1019AWSA	J	AT	Battery Lid,Remote Control

P.W.B. ASSEMBLY (Not Replacement Item)

	PWB-A	92LPWB2592MANS	J	—	Main
⚠	PWB-B1~3	92LPWB2592PWRS	J	—	Power/Power Amp./Power Sub (Combined Ass'y)
	PWB-C1~8	92LPWB2592DPLS	J	—	Lamp/Switch A,B,C/LED/Display/ Mic/CD Servo (Combined Ass'y)
	PWB-D	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only)
	PWB-E	92LPWB2530JCKS	J	—	Jack
	PWB-F	QPWBF0322AWZZ	J	AC	Tray Switch (PWB Only)
	PWB-G	92LPWB2603MDSS	J	—	MD Main
	PWB-H	QPWBF0400AWZZ	J	AC	MD Mechanism Switch (PWB Only)

OTHER SERVICE PARTS

	QCNWK0059AFZZ	J	AF	Extension Connector (2Pin)
	QCNWK0107AFZZ	J		Extension Connector (6Pin)
	QCNWK0108AFZZ	J		Extension Cable (28Pin)
	QCNWK0109AFZZ	J		Extension Cable (5Pin)
	RRCDT0101AFZZ	J	CB	Test Disc,Low Reflection
	RRCDT0103AFZZ	J	BK	Head Adjusting Transparend Disc
	RUNTK0457AFZZ	J		Extension PWB
	UDSKM0001AFZZ	J	AZ	Recording Mini Disc

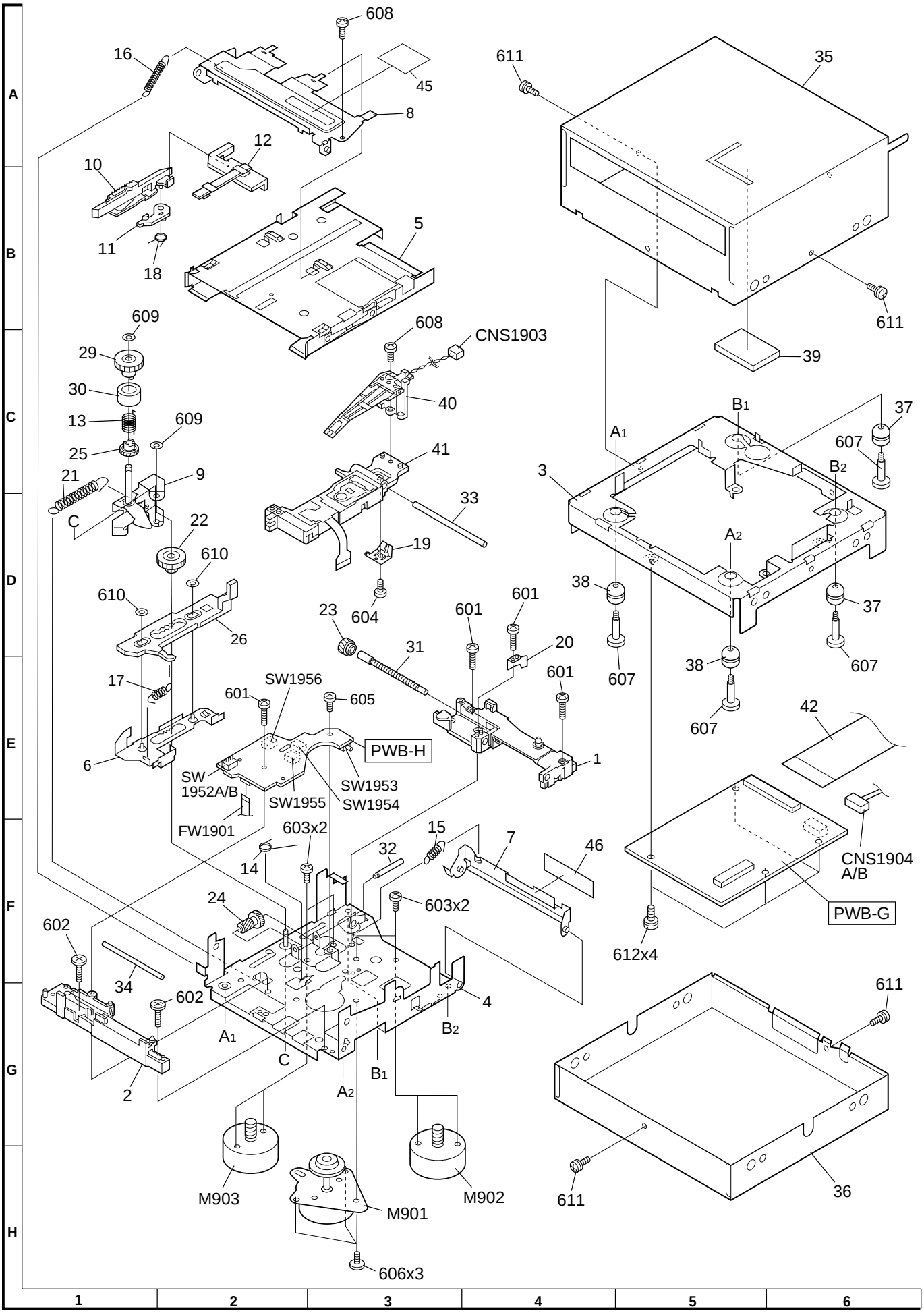


Figure 11 MD MECHANISM EXPLODED VIEW

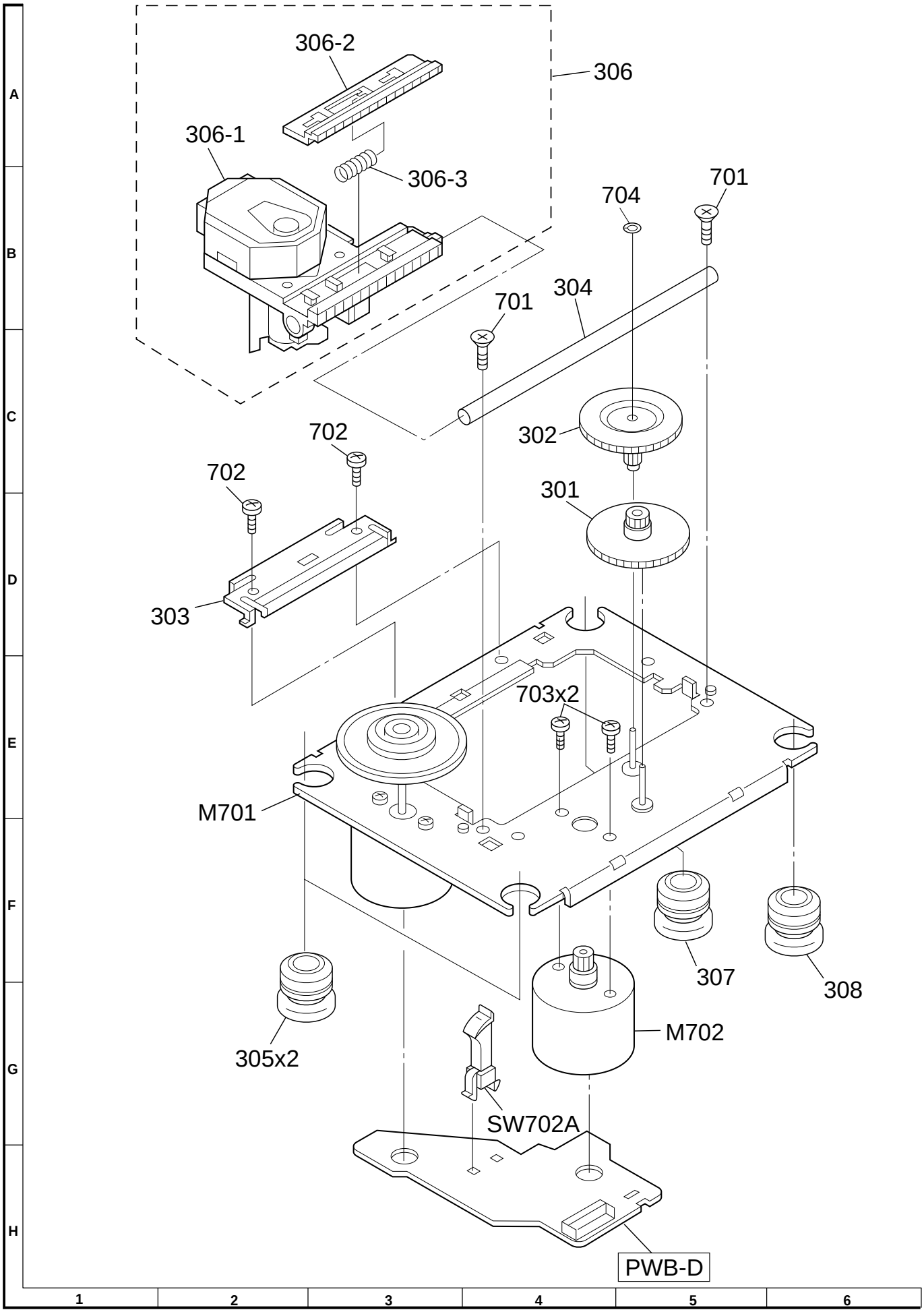


Figure 12 CD MECHANISM EXPLODED VIEW

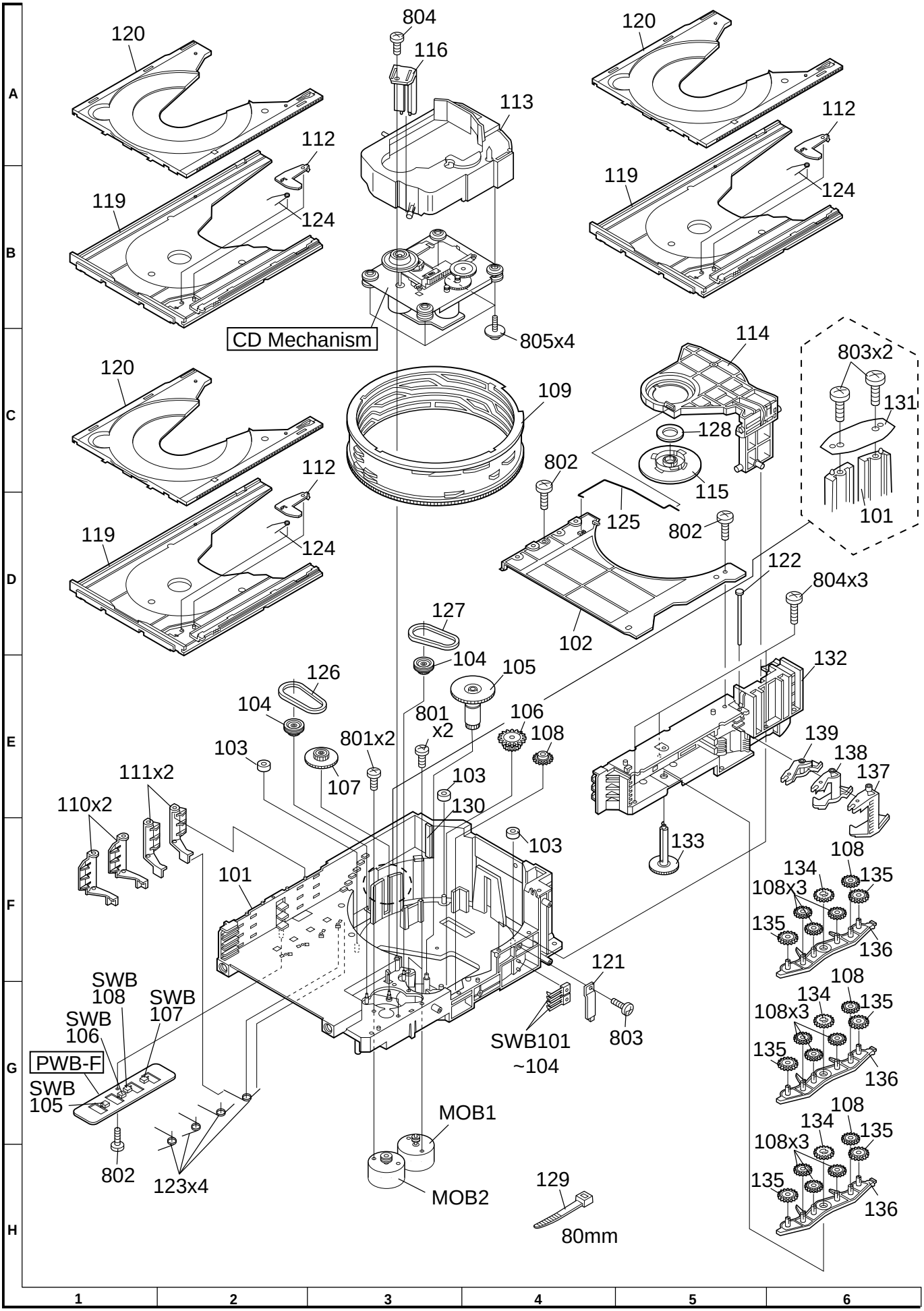


Figure 13 CHANGER MECHANISM EXPLODED VIEW

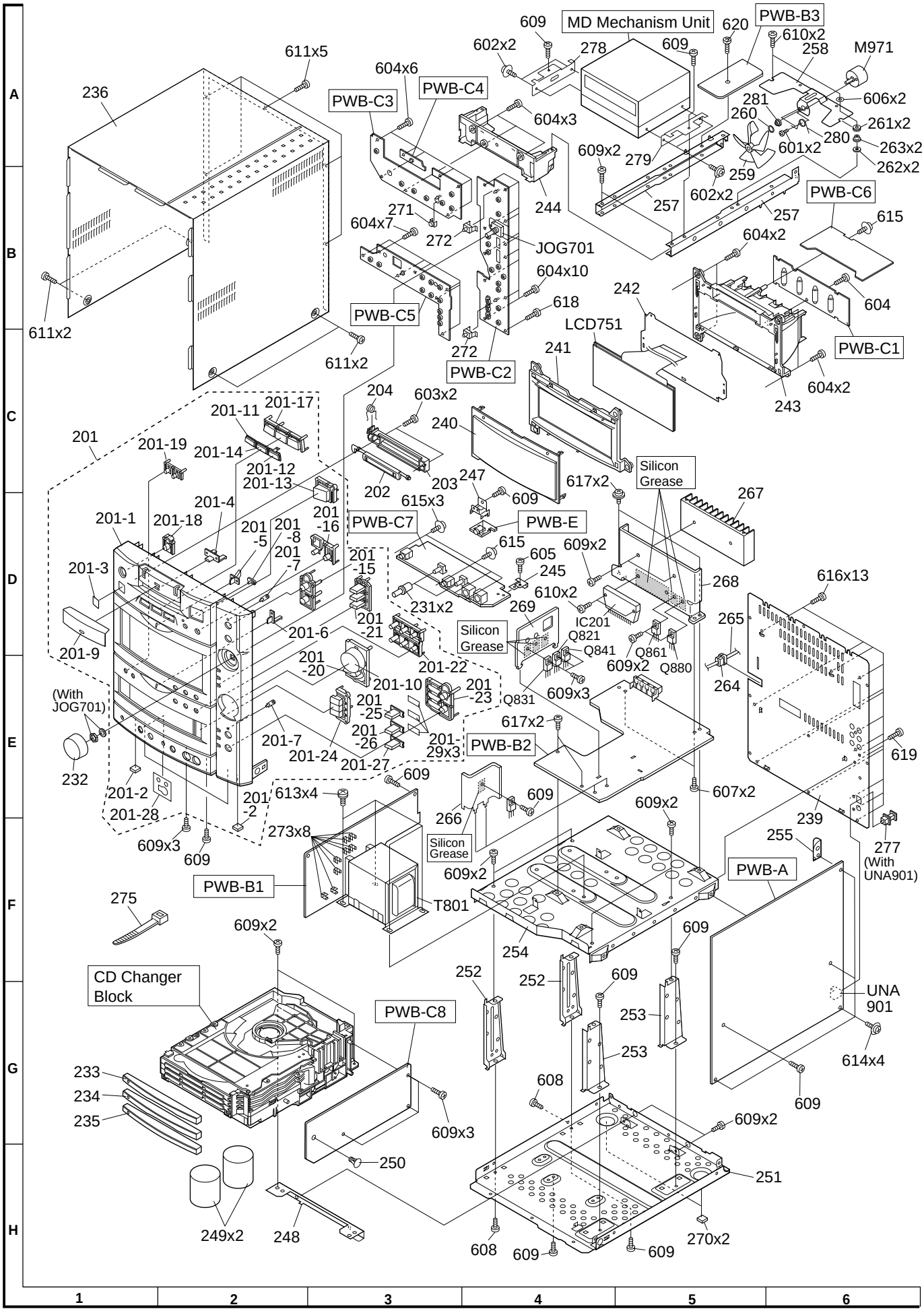


Figure 14 CABINET EXPLODED VIEW

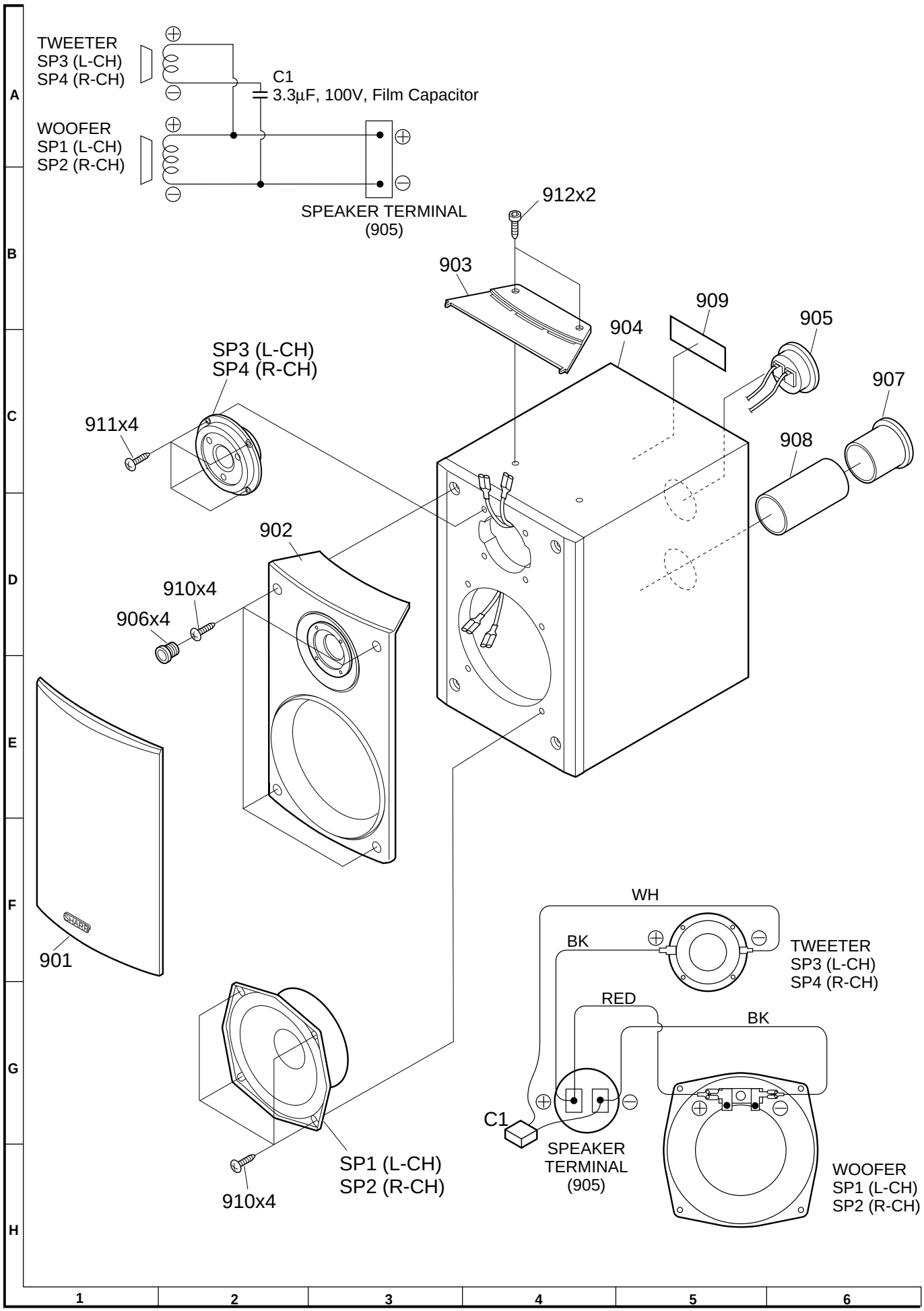
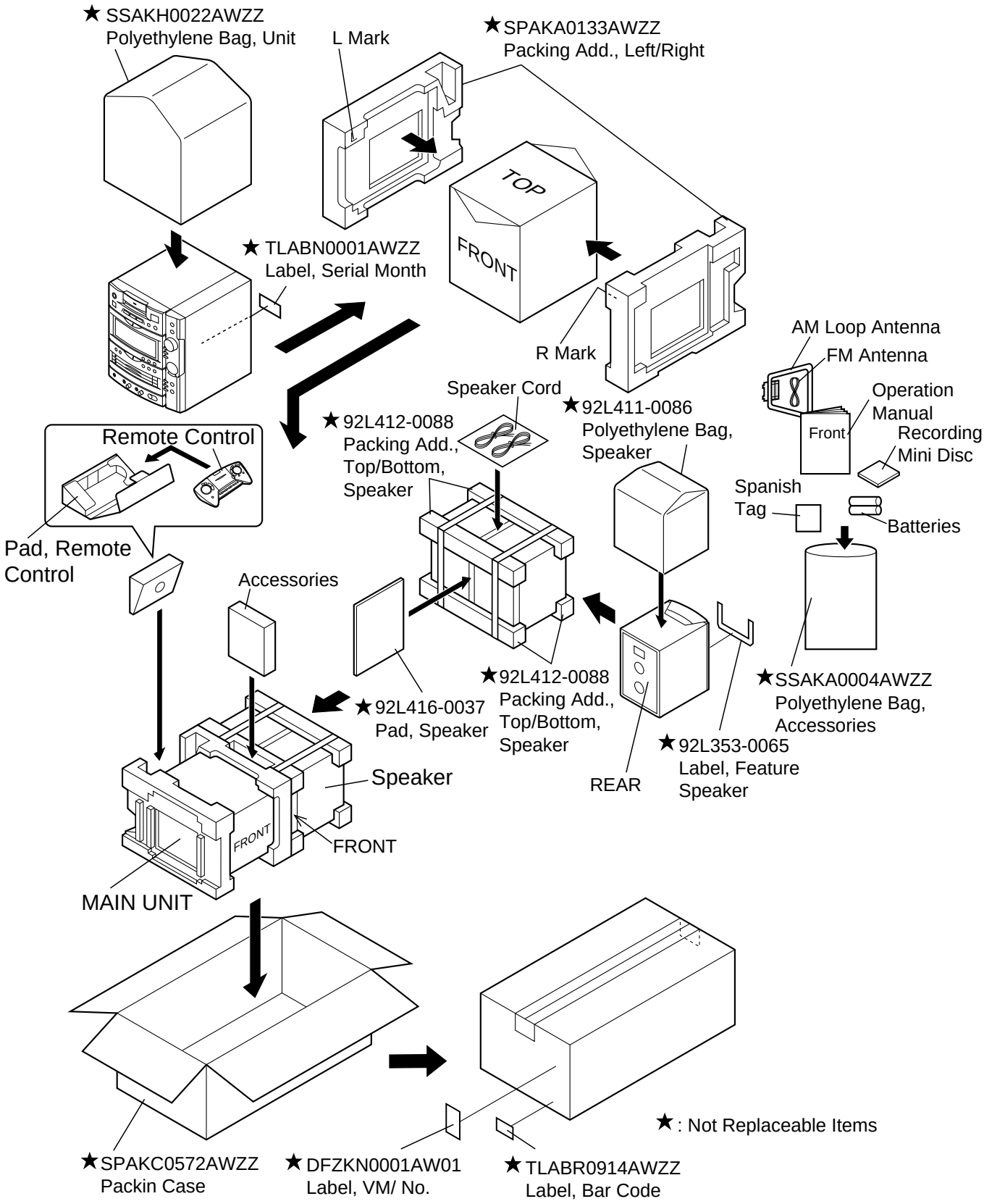


Figure 15 SPEAKER EXPLODED VIEW

PACKING OF THE SET



SHARP

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